

Curriculum

Bachelor Nutrition

The courses are written in the order of the list of courses in the transcript of grade list

- **Islamic studies I**
Religious course

- **General Chemistry**

Perquisites: -

General description:

Structure and properties of molecules, structure and, the study of chemical reactions.

For laboratory introducing the variety of fundamental laboratory techniques applicable to the study, separation, purification, preparation and simple reactions.

References:

1. Mortimer, CE.; General Chemistry, Last Edition
2. Morrison, R.T. Boyd, R.N; Organic Chemistry, Last Edition

- **General Biology**

Perquisites: -

General description: This course is the study of life and living organisms. General biology courses encompass many aspects of the science, such as ecology, genetics, paleontology, physiology and zoology. Free, non-credit online courses usually have no prerequisites, Topics include cell biology, human disease and genetics

References:

1. George B. Johnson and Susan R. Singer; Understanding Biology, Last Edition
2. Jane Reece, Neil Campbell, Eric J. Simon,; Campbell Biology , Last Edition

- **Biostatistics**

Prerequisite: -

General objective of the lesson:

At the end of this course, the student is expected to be able to know the common methods of research in medical sciences, Knowledge collects information and expresses them statistically, perhaps, statistical inference in order to understand, Complete study of medical articles and perform simple health research,

Description of the course

This unit is required for the review and design of future comprehensive research.

Outlines (34 hours)

Definition of statistics and its importance in medical and health sciences, The concept of research and its types, Different stages of a research, Types of observations, methods of collecting information, classification and displaying information in the form of a table, Numerical description of information (central and dispersion indices), The concept of probability and the expression of its simple rules, Normal distribution and its importance in natural expression in medical observations, Suitable for important health chances and expressing the concept of community life expectancy and the concept and importance of random shoulder, easy probability sampling methods, cluster arches and kinetics, Sampling distribution of the mean and similarity test = Central, Point calculation and do not have average and site, The hypothesis test includes type 1 error and the average happiness of a society with a fixed number of equality, Proportion of a community with a fixed hundred, flux in the average blur in the ratio, The relationship between hypothesis testing and confidence limits, Equality of two ratios using criteria, Standardizing health indicators through direct and indirect methods, Statistical analysis of some selected medical articles

The main sources of the lesson (references)

1. Lippincott, Williams & Wilkins, Muare, B. H. Statistical methods for health care research
- 2- Sidi, Principles of Biostatistics -University publication.

Student evaluation form: midterm exam, End of semester proposal writing test

- **psychology**

Prerequisites: -

General objective of the lesson:

Familiarization with the principles of psychology and its application in dealing with and analyzing psychological issues

Lesson description:

Since it is important to know and analyze nutritional issues, familiarity with various aspects of psychology and the effects of psychological factors on the choice and consumption of food, familiarity with the principles of this science, It is necessary for a nutritionist

Outlines: (34 hours)

Introduction and definition of psychology, The relationship between mind and body from different perspectives, Individual and group differences, Learning, its conditions and types (familiarity with some learning theories), Personal physiology and its formation, Motivation theories and applications (Maslow's theory, the interrelationship of need and motivation, ways to arouse and maintain interest in learning), Social interaction (person in group), How behavior and habits are formed (the role of social-environmental, psychological and antagonistic factors, social stress management.

The main sources of the course (references): the last and the following sources with relevant sources

1. Hargahan BR, Elsun M. An introduction to learning theories (Translator: Seif A.). Noshardana, Tehran.
- 2.A. Oronson, Social Psychology (Translator: Shukarken) Rushd Publications, Tehran.
- 3-Tomb, DA, Psychiatry. Williams & Wilkins, 1999.
- 4- Sadock, B. Kaplan J. Comprehensive Textbook of Psychiatry. Macintosh.

Student evaluation show: Student evaluation method:- A written test for the cognitive-attitudinal field of discussion and conversation in the class.

- **Sociology**

Prerequisite: -

General purpose of the lesson

Familiarizing students with the general concepts of sociology and methods of studying the impact and interaction of society and social phenomena on the one hand and health-nutritional issues on the other hand in order to better understand nutritional problems and provide nutritional services in accordance with the needs of society.

Lesson description:

Considering the socio-economic problems in the healthcare system, nutrition experts should familiarize themselves with the findings of sociological researches about the current situation and its roots and social factors affecting it in better and more complete use of healthcare facilities and dealing with them appropriately. It is necessary.

Outlines: (34 hours)

Social causes of diseases, social foundations of diseases, social pattern of diseases, the effect of historical-social-demographic changes on the pattern of diseases, the effect of social class and subcultures on the pattern of disease, disease models, History of sociology and its concepts and terms, culture and social life, individual and group culture, social institutions, social group, social class, social institutions, value and social norm, getting to know the characteristics of urban and rural societies in Iran.

The main sources of the course (references):

the latest edition of the following sources

- with the relevant sources of Armstrong in medical sociology (translators: Ahmad Khazaei, Mohammad Tawakal, Scientific Publications of Tehran Sharif University of Technology Azkia

-Sociology of Rural Development and Underdevelopment of Iran, Tehran Information Publications, Ashfete Tehrani From Society and Sociology, Farhang Gostar Publications, Tehran.

Adam. F., Hertsilk .K, the sociology of illness and medicine (Translators: Lawrence, M. Katabi). Publishers Believers , Qom.

Student evaluation method: Lectures and discussions in class, Preparing a class report about the pattern of one of the common diseases in the country and analyzing the causes, Its social (for the attitudinal-knowledge field, - Written test (for the cognitive field)

- **General health**

Prerequisite: epidemiology of diseases,

General objective of the lesson:

At the end of this course, students will get to know the concept of health and the factors affecting it, the role of development departments in ensuring and promoting health, with health measures for different age and gender groups in the society and national and international organizations related to health and define it.

Lesson description

The mutual effect of nutrition and health is one of the issues. It is obvious that the nutritionist, as a responsible member in ensuring the nutritional health of the individual and the society, must be aware of the basics of health, the factors affecting it, and the role of programs and health care services in it.

Outlines (34 hours)

History and definition of health, Concepts of health and disease determinants of health, Health planning and management, Health provision strategies - Health education and communication, Basic health statistics, Basic health statistics, International health and familiarity with international agencies and organizations related to health, Environmental Health, Family health, Health Professional, mental health

The main sources of the course (references):

the latest edition of the following sources or related sources

1. Park J.E & Park K: Textbook of Preventive and Social Medicine.
2. 2- Park Ja Kaliat health services, first part (Shojai Tehrani H. Malek Afzali), Publications Samat, Tehran, last edition

Student evaluation method: Written test for cognitive and knowledge Tutor Report for attitude and knowledge,

Physical education I

Perquisites: -

General description: Explore the amazing capacity of your body to move and adapt within your everyday world. Students learn how body systems respond to the stress of acute exercise and adapt to chronic exercise training, how cardiovascular system adapts to optimize oxygen delivery and utilization, how muscles generate force and hypertrophy in response to training, and how metabolic/biochemical pathways are regulated to support the increased energy demand of exercise. Also theory discussion on the causes of fatigue and muscle soreness, and on what limits human performance.

- **General Physics**

General description:

Students will learn basis of physics, i.e. mechanics (motion, force and energy), gravitation, fluid and oscillation. (Introductions, Kinematics in One Dimension, Kinematics in Two Dimensions; Vectors, Newton's Laws of Motion, Circular Motion; Gravitation, work and Energy, Linear Momentum, Rotational Motion, Static Equilibrium, Fluid, Oscillation and Wave, Sound, Temperature and Kinetic Theory,).

For General Laboratory Physics: Introduction to Data Studio and One-Dimensional Motion Velocity and Acceleration, Force, Mass, and Acceleration, Gravitational and Passive Forces, Work and Energy, Conservation of Energy, Buoyant Forces, Collisions and Momentum, Rotational Inertia, Harmonic Motion and the Pendulum, Standing Waves and Resonance Heat Capacity.

References:

1. D.G. Simpson; General Physics, Last Edition
2. Jearl Walker ; Fundamentals of Physics Extended, Last Edition

- **course Organic Chemistry**

Perquisites: General Chemistry

General description: Structure and properties of organic molecules, structure and stereochemistry of alkanes, the study of chemical reactions, stereochemistry, and alkyl halides: nucleophilic substitution and elimination, structure and synthesis of alkenes, reactions of alkenes, conjugated systems and orbital symmetry, aromatic compounds, reactions of aromatic compounds.

For laboratory introducing the variety of fundamental laboratory techniques applicable to the study, separation, purification, preparation and simple reactions of organic compounds.

References:

1. Morrison, R.T. Boyd, R.N; Organic Chemistry
2. Bacon, J.D.; Caserio, M.C.; Basic Principles of Organic Chemistry
3. Ege, S.N.; Organic Chemistry
4. Wade, L.G.; Organic chemistry
The systematic identification of organic compound

- **Anatomy**

prerequisites :-

General objective of the lesson:

By passing this unit, the student will be able to learn about different parts of the body

Lesson description:

As a supplement to the physiology course, a requirement for the two fields of nutrition science and dietetics will be.

Outlines: (17 hours)

The use of mollage in the study of the anatomy of circulatory systems, kidneys and urinary tracts, genitals, Digestion, endocrine glands, breathing, muscular and skeletal nerves, observation of organs and organs, A different female and male corpse

The main sources of the lesson (references):

The latest edition Zobotta Anatomy

Student evaluation method: End of semester exam

- **Introduction to biochemistry**

Prerequisite: -

General objective of the lesson:

At the end of this course, students are expected to be familiar with the components of materials and molecules that make up the human body (chemical structure and characteristics).

Lesson description:

Due to the fact that identifying the chemical structure and characteristics of the constituents of the human body is very important for the students of this field to interpret the needs of the body and its changes in the state of health and disease with a molecular perspective. This course serves as a basis for specialized courses is a string.

Theoretical outlines: (34 hours)

Preface (definitions and introduction of biochemistry and its relationships with other fields of the medical group, especially nutrition), general principles of living organisms and their reactions, investigation and knowledge of the cell from a molecular and biochemical point of view, water, electrolytes, the name of carbohydrates (the role and importance, definitions, classification and derivatives, properties and characteristics) lipids (definitions, general, role, classification and characteristics) and lipoproteins, amino acids, peptides, proteins (general definitions, role, characteristics and classification), Enzymes (general, classification, characteristics, mechanism, function, inhibitors, clinical classification), Rarity molecular (RNA, DNA, properties, classification, structure) vitamins, hormones (general and classification)

Outline of practical content: (48 hours)

preparation of name tolerances and determining their effect (isoelectric point), identification of sugars. Hydrolysis of complex sugars, determination of characteristics of gerbia (various indices), detection of amino acids and measurement of an amino acid in solution, detection of proteins and their measurement methods, investigation of enzyme properties, extraction and isolation of DNA, extraction and isolation of nucleotides from plants. Chromatography of Fands paper and spectrophotometric amino acids and measurement of a substance such as hemoglobin, measurement of ascorbic acid, chemical tests on human milk.

The main resources of the lesson (relerences):

The latest version of the following sources

1. Murray, R. K, Granner, D. K., Mayes, P. A., Rod well, V. W. Harper's Biochemistry.
2. Nelson, D. L., Cox, M. M. Lehninger Principles of Biochemistry.

Student evaluation method: Questions and answers in the classroom research paper on nutrition biochemistry midterm exam, Final exam

- **General microbiology (Myology& Parasitology)**

Prerequisite: -

General objective of the lesson:

By passing this unit, the student will be able to describe the life pattern of microscopic organisms and its relationship with human life.

Lesson description:

As basic information for students of all fields related to medicine, including nutrition sciences and

Dietitian is necessary.

Theoretical outlines: (34 hours)

Definition of microbiology, structure and classification of microbes, reproduction of microorganisms, reproduction and growth and factors affecting them, ecology of microorganisms, biochemistry of microorganisms, Pathogenic bacteria, tartar, cakes, yeasts, viruses, methods of eliminating microbes, prevent their growth

Practical outline (33 hours)

Preparation of culture medium, sterilization, general and special culture mediums, preparation of tools,

Cultivation of microbes, isolation of microbes, their staining and microscopic detection, determination and study, Biochemical analysis of microbes.

The main sources of the lesson (references), the latest edition of the following sources

2. Jawetz, E., Melnick, J.L., Adelberg, E.A., Brooks, G. F., Butel, J.S., Omston, L.N. Medical microbiology. Appleton & Lange.

Student evaluation method: - mid-semester and end-semester laboratory activity tests

- **Principles of Epidemiology**

Prerequisite: Vital Statistics

General objective of the lesson:

At the end of this course, the student is expected to know the principles and common methods in investigations, Learn epidemiological.

Lesson description:

In order to conduct any epidemiological investigation, it is necessary to teach this course.

Outlines (32 hours)

History and definitions of the science of epidemiology, disease measurement indicators (incidence.

Prevalence and their application), indicators for measuring disease mortality and severity of diseases, types, Epidemiological studies, Spinach Alighi types of epidemiological studies, cross-sectional studies, case-control studies, prospective and retrospective cohort studies, experimental methods, clinical trials, ecological screening studies, common statistical methods in data analysis, errors in, brief about the epidemiology of infectious diseases.

The main sources of the course (references):

the latest edition of the following sources

A Principles and methods of epidemiology, demography and health statistics (volume 1) translator

Dr. Hossein Shujaei Tehrani, Samat Publications.

2- Medical Epidemiology Translator: Dr. Mohseni Jan Ghorbani Konkash Publications

1- Willett, WC. Nutritional epidemiology. WB Saunders.

4- Epidemiology and Public Health Medicine, by: N Vetter and 1 Matthews, Churchill Livingstone.

Student evaluation method: Student evaluation by written end-of-semester exam and class activity

- **Physiology**

Perquisites: General Biology, General Anatomy

General description: This course will help the students to describe the action potential of a neuron and understand the physiological role of nerve impulse conduction. Explain how a skeletal muscle contracts, how fatigue muscle is formed, homeostasis and maintaining physiological function. Also how the cardiovascular system regulates the blood flowing through the tissues. Explaining the altered functions in the cardiovascular and pulmonary systems affecting the body. Describe the roles of blood in homeostasis and immune defense. Explain how the pulmonary system and the blood transport oxygen to and carbon dioxide from tissues.

References:

1. Guyton, A.C., & Hall, G.E.; Textbook of Medical Physiology, Last Edition
2. R.H. Berne and M.N. Levy, "Principles of Physiology", Last Edition

- **Persian**

Perquisites: -

General description: The Persian (Farsi) Language Program aims to develop skills in the five areas of reading, listening, speaking, writing, and culture. This course offers a proficiency-based curriculum based on an eclectic communicative approach which introduces students to both colloquial and formal Persian from the beginning.

References:

Khazheni Sara Beygom & et al; Persian Language, Last Edition

- **Islamic studies II**

Religious course

- **Biochemistry of metabolism**

Prerequisite: Introductory Biochemistry

General objective of the lesson:

At the end of this course, the student is expected to be familiar with the molecular transformations inside the body and the fate of food entering the body and their use in health and disease states and in general, fuel and structural pathways, Familiarize yourself with various materials.

Academic goals:

Explain the metabolic pathways of carbohydrates, Explain the transformations of energy and the factors participating in its movement, Write the most important events of biological oxidation and oxidative phosphorylation, Describe the metabolic pathways of lipids and lipoproteins, Explain the metabolic pathways of proteins and amino acids, Explain the metabolic pathways of nucleotides and porphyrins, writing Pathways of metabolism of hereditary molecules (identification, case, Describe the adjustment tasks, Describe the interrelationships with this metabolism of multiple substances, Explain some of the orientational disorders of molecules, Describe the regulating enzymes of metabolic processes, Explain some important metabolic diseases.

lessons:

Considering that the field of dietetics is in the scope of medical and health knowledge and includes important aspects of human health, the biochemistry of metabolism helps in creating a molecular perspective and identifying the transformations of various substances and their application.

Theoretical outlines: (51 hours)

bioenergetics, biological oxidation, oxidative phosphorylation, interstitial metabolism, carbohydrate metabolism (citric acid cycle, glycolysis, pentose phosphate and uronic acid pathways, glycogen production and breakdown, lipid metabolism) fatty) and lisiviro, thirst and ico: enoids, amino acid metabolism and proteids, urea cycle, Nucleotide metabolism and porphyria replication, transcription, protein synthesis and regulation mechanisms.

The general objective of the practical unit of the course:

by passing this unit, the student will learn common biochemical parameters in the laboratory and be able to use them to evaluate the body's metabolism.

Skill goals:

Collect and prepare blood and urine samples and perform the following tests: measure the amount of sugar, urea, uric acid, cholesterol, HDL albumin, electrolytes, iron, transaminase and hookah phosphatase in the blood. Perform a complete urine test and measure the amount of sugar and creatinine.

Outlines (33 hours)

How to collect and prepare blood and urine samples for the tests mentioned below blood clots, urea, uric acid, triglycerides, total cholesterol and FHDL protein, albumin, electrolytes, transaminases (SGOT, SGPI, serum amylase and alkaline phosphatase in urine): Complete urinalysis and inter-urine measurement

The main sources of the lesson (references):

the latest edition of the following sources

1-Robert K. Murray, Dary LK. Granner, Peter A. Mayes, Victor W.Rod well. Harper's Biochemistry. A Lange medical book.Appleton & Lange.

2- David L. Nelson, Michael M. COX. Lehninger Principles of Biochemistry.

Student evaluation method: Questions and answers during all class hours, reading and reviewing biochemistry of nutrition articles, mid-term exam, Semester and final exam.

- **Basic Nutrition 1**

Prerequisite: biochemistry of metabolism

General objective of the lesson:

At the end of this course, the student is expected to be familiar with the principles of nutrition science and to Understand the importance of energy-generating nutrients. donating knowledge, Define the importance of carbohydrates, Define the importance of proteins, Define the importance of marijuana, Define the unit of energy, to give growth and aging on them, explain the digestion, absorption, metabolism of carbohydrates, the effect on oral and dental health and cardiovascular diseases, Explain the classification of carbohydrates, proteins and fats, which of them, the effects of nutrition, physical activity, The methods used in determining body composition and values and describe the disorder in the metabolism of carbohydrates. Digestion, metabolism of proteins and metabolic disorders of amino acids caused by protein deficiency, Describe food curls and its importance in diet. Describe hormonal control in the metabolism of carbohydrates and substitute sweeteners, explain Effective factors in consumption quality weapons, earth balance, the amount of protein needed in groups, The effective factors in the consumption of proteins, the modification of the quality of nitrogen balance, the amount of protein requirement in different age groups and physiological states, describe the qualitative value and how to determine the protein requirement. Digestion, metabolism, transfer, storage, elimination of wastes and complications related to the lack of essential fatty acids and disorders related to the consumption of fats in the body, then describe the amounts required for fatty acids, Describe recommended amounts of energy in different periods of life, energy balance and factors affecting it. Describe the components of energy consumption, the factors affecting them and the methods of measuring each, to give.

Lesson description:

This lesson is the basis of entering the science of nutrition and accurate and practical identification of energy-generating nutrients.

Outlines (51 hours)

Definitions and overviews of nutrition science, key concepts of macronutrients, Body composition: methods used to determine different parts of the body and the values of each of them, Effects of nutrition, physical activity, growth and aging on them

carbohydrates: Briefly about the biochemistry of carbohydrates, types, importance and nutritional role of each one in the diet. Dietary fibers and its importance in the diet, carbohydrate metabolism (digestion, absorption, transport, storage), hormonal control in carbohydrate metabolism, food sources, impact on oral and dental health and cardiovascular diseases, a brief about metabolic disorders and substitute sweeteners

Proteins: a brief about the biochemistry of proteins, types, importance and role, classification of amino acids, quality modification, digestion, absorption, metabolism and effective factors in consumption, nitrogen balance, the amount of protein needed in different age groups and physiological states, food sources, value Qualitative and how to determine the need for protein, metabolic disorders of amino acids and caused by protein deficiency

Fats: types of fats (triglycerides, phospholipids, eicosatoids, stanolipids, alcohols, isopertoids, steroids and their role in the body, fatty acids and their food sources, metabolism of fats, digestion, absorption, transport, storage, excretion) required amounts to essential fatty acids, complications related to the lack of essential fatty acids and disorders related to the consumption of fats in the body.

- **Food Microbiology**

prerequisites: general microbiology and parasitology

General objective of the lesson:

After completing this unit, the student should be able to identify harmful and beneficial microorganisms in materials, Know food in different stages of production, process and food consumption

Academic goals: (theoretical unit)

To know the history and importance of microorganisms in food, Identification with all types of important microorganisms in food (molds, yeasts and bacteria), Explain the external and internal effective factors in the growth of microorganisms. Explain the changes resulting from the activity of microorganisms in food. To explain the spoilage of food groups, to know useful microorganisms used in food production, to get familiar with food microbial standards. Get to know the reference methods of microbial measurement of food.

Skill goals:

-Sampling of water and foodstuffs, Microbial tests including cakes, yeasts and bacteria in solid and liquid food, Microbial tests including molds, yeasts and bacteria in solid and liquid food, Microorganisms in food by microscopic observation or biochemical tests, Identify and determine

Lesson description:

Due to the presence of harmful and beneficial microorganisms in food at different stages of production, process and Food intake is important to know this category of microorganisms.

Theoretical outlines: (32 hours)

Introduction and history of microorganisms in food, important microorganisms in food (cakes, yeasts, bacteria), external and internal effective factors in the growth of microorganisms in food, specific changes resulting from the activity of microorganisms in food, fate of food groups , useful microorganisms used in food production, food microbial standards, rapid food microbial measurement methods

Practical outline: (34 hours)

water and food sampling, conducting microbial tests in food, including cakes. Yeasts, bacteria, microbial tests in solid and liquid food (aerobic and anaerobic), identification of microorganisms in food with biochemical tests and microscopic observation

The main sources of the course (references):

the latest edition of the following sources

- 1) Frazier, W.C. Food Microbiology. WB Saunders
- 2) 2- Ghasemian Safai, H., Food Microbiology, Isfahan, Mani.

Student evaluation method: mid-semester exam, practical work of end-semester exam

- **History of Islam**
Religious course

- **General English**

Prerequisites: -

General description: The General English course focuses on accuracy and fluency with an integrated skills and strategy-based curriculum that aims at developing the four language skills—listening, speaking, reading, and writing. The course also focuses on improving pronunciation and increasing vocabulary. Participants are placed in one of the following stages based on their placement test results: beginner, elementary, preintermediate, intermediate, and pre-advanced.

References:

1. Sabouri Kashani, Ahmad; General English, Last Edition
2. Raymond Murphy ,Grammar in Use Intermediate with Answers , Last Edition

- **Physical education II**

Prerequisites: Physical Training I

General description: Building on the skills of Physical Training 1, students will continue to participate in activities to improve cardiovascular abilities, muscle strength and endurance, and increase flexibility and balance. Assessment of physical fitness levels will be completed through health-related fitness component testing including timed runs, shuttle runs, push-ups, curl ups, flexion and chin ups.

- **Population and family planning**

Familiarity with methods of preventing pregnancy

- **Basic Nutrition II**

Prerequisite: biochemistry of metabolism

General objective of the lesson:

After passing this unit, the student should be able to explain the nutritional principles of vitamins, water and minerals

Academic goals

Explain the classification of vitamins and minerals. Define the importance and history of vitamins, Define the importance of different types of solutes, Define pseudo-vitamins, Define antimitrals, Vital role, digestion and absorption, bioavailability, metabolism of factors effective in deficiency and the resulting disturbances, poisoning, daily requirements, food sources, water-soluble vitamins, explain Vital role, digestion and bioavailability, metabolism, factors affecting deficiency and complications, As a result, poisoning, daily requirements, food sources, soluble vitamins, Describe leather, Explain the vital role, water distribution in the body, body water balance, the need for water, The vital role of digestion and bioavailability, metabolism, factors affecting deficiency and complications, Due to that intoxication, describe the amounts of daily requirements, food sources, and macronutrients, Vital role, digestion and absorption, bioavailability, metabolism, factors affecting deficiency and side effects Caused by it, poisoning, daily required amounts, food sources, description of macrominerals - vital role, digestion and absorption, bioavailability, metabolism, factors affecting deficiency and its complications, vote poisoning, daily required amounts, Describe food sources of microminerals, To describe the vital role of digestion and bioabsorption in ohmic, metabolism, factors affecting the deficiency and complications caused by it, poisoning, daily required amounts, food sources, micro-minerals.

Lesson description

This unit, as part of the principles of nutrition science, is necessary for the student of this field

Outlines: (51 hours)

The importance and history of vitamins, vital role, digestion, metabolism, biochemistry, metabolism, factors affecting deficiency and its complications, poisoning, anti-vitamins, water and its vital role, water in the body, water balance in the body, the need for water modification and its types, vital role, digestion and absorption, bioavailability of metabolism, effective factors in constipation and its complications, toxicity, anti-modification, amounts Daily requirements, food resources

The main sources of the course (references): the latest edition of the following sources

1. Mahan L K and Escott-Stump S. Krause's Food, Nutrition & Diet Therapy. WB. Saunders.
2. Shils ME, Olson JA, Shike M, Ross AC. Modern Nutrition in Health and Disease. Lippincott Williams & Wilkins.
3. Garrow JS, James WPT, Ralph A. Human Nutrition & Dietetics. Churchill Livingstone.

Student evaluation method: Midterm exam, class project, The final element

- **Role of nutrition in health Services**

Prerequisite: Public Health educational

General objective of the lesson:

At the end of this course, the student should be able to familiarize himself with the nutrition programs and services available in the health care system of the country and explain the role of the nutritionist in these programs, Knowledge objectives: The history and structure of the primary health care network in general health services with an emphasis on services to express nutrition in Iran and the world, Know the blood pressure control and prevention program in the primary health care network, Know the control and prevention program of cardiovascular diseases in the primary health care network, Know the cancer control and prevention program in the primary health care network, Know the control and prevention program of diabetes in the network of basic health levels, Know the relationship between nutrition, infection and health, Get to know the relationship between nutrition and mental health, Describe the nutritional program of child care in the primary health care network, Describe the nutritional program for the care of pregnant mothers in the primary health care network, Describe the nutritional care program for nursing mothers in the primary health care network, Know the promotion program with breast milk in the primary health care network, and know the iron bar program in the primary health care network, Explain the plan to combat the disease caused by deficiency in the primary health care network.

Lesson description:

Considering that nutrition experts work as mid-level managers in the health care system, it is necessary for them to be familiar with PHC, the type of services and current nutritional programs in it.

Demand outline (34 hours)

History and structure of the primary health care network in the world and Iran (general health services with an emphasis on nutritional services), Current nutritional programs in the health care system in Iran,

Nutritional components of the child care program (monitoring the growth of children under 6 years old and elementary school children), Nutritional components of care program for pregnant and lactating mothers, Breastfeeding Promotion Program, Iron Support Program, Program to Fight Iodine Deficiency Disease, Program Blood pressure control and prevention program, cardiovascular disease control and prevention program, cancer control and prevention program, Diabetes control and prevention program

The main sources of the course (references):

the latest edition of the following sources with relevant sources

- 1- UNICEF, the role of care in improving the nutritional status, (Translators: Abdullahi Z, Sheikhul Islam Ra, UNICEF and Ministry of Health, Treatment and Medical Education, Tehran.
- 2- Thomas B. Nutrition in Primary Health Care. Black Weal Science.

Student evaluation method: Presentation and discussion in class Prepare a class report on the components of nutrition services in one of the current programs in PHC, The country and its criticism, writing test

- **Chemistry of food**

Prerequisite: official biochemistry

General objective of the lesson:

By passing this unit, the student should be able to understand the components of food and their chemical changes to know, Knowledge objectives: (theoretical) Name the types of additives used in food, Name the types of poisons, aromas and flavors in food, Chemical nature of food in terms of water, carbohydrates, fats, proteins, minerals, Vitamins, pigments and enzymes will be explained later, Explain the role of each additive used in food.

Skill goals:

Sampling food, Components of food including moisture, ash, protein, fat, sugar, raw fiber, vitamins, Measure minerals.

Lesson description:

Considering the progress of food technology and the possible changes due to the process and the major role that food has in the health and life of humanity, getting to know this field more and more with the science of material chemistry, Food is of particular importance.

Outlines: (34 hours)

Introduction, chemical nature of food (water, carbohydrates, fats, proteins, minerals, vitamins, pigments and enzymes), additives in food, flavors in food, toxins in food

Practical topic: (33 hours)

The grandson of food sampling, familiarization with common methods of food analysis, including measurements of moisture, ash, protein, fat, sugar, raw kabir, vitamin C, minerals (calcium People, iron)

The main sources of the lesson (references), the latest edition of the following sources

- 1) Deman J.M. Principles of food chemistry. An Aspen Publication Inc.
- 2) Belit-Grosch. Food chemistry Springer-Verlag, Heidelberg, Germany.
- 3) Pearson, the chemical analysis of foods. Longman Publication.

Student evaluation method: mid-semester and end-semester laboratory activity tests

- **Health & Food poisoning**

Prerequisite: Public Health, General Microbiology

General objective of the lesson:

At the end of this course, the student is expected to be able to explain the ways of contamination of food chain and food poisoning and know the methods of its prevention and control.

Academic goals:

Define food poisoning and infection. Explain the types of food poisoning and the classification of toxins in terms of LD. Explain the ways of food contamination with toxins (water, soil and air). Explain the ways of entry of toxins into the human body. To identify the determinants of acute and chronic poisoning in humans. Explain poisoning and infections caused by microbial agents (how contamination) and describe non-microbial poisoning (allergy and natural poisoning). Explain animal poisonings, explain ways to control and prevent the causes

Lesson description:

One of the factors affecting food security is access to safe and healthy food, so students, People should know the ways of food safety and apply it in the society.

Outlines (34 hours)

Definition of poisoning and infection in Food

Classification of food poisoning and classification of poisons in terms of: LD - ways of contamination of food with poisons (water, soil, air), ways of poisons entering the human body, determining factors of acute and chronic poisoning in humans, poisoning and infections caused by microbial agents (how pollution) non-microbial poisonings (allergy and natural poisonings) animal poisonings.

The main sources of the course (references),

the latest edition of the following sources or related sources

1. Takayuhi .S.L Bseldaes I. Introduction to Food Toxicology. Academic press NY
2. Trickett, J. The prevention of Food Poisoning Nelson Thrones Ltd.
- 3.K. Farajzadeh Alan D. Food hygiene, Noor Danesh Cultural Institute Publications, Tehran.
- 4- Robert K. Murray, Dary LK. Granner, Peter A. Mayes, Victor W. Rodwell. Harper's Biochemistry. A Lange medical book. Appleton & Lange.
- 5- David L. Nelson, Michael M. COX. Lehninger Principles of Biochemistry.

Student evaluation method: Lectures in class, A case study of a food poisoning, Questions and answers during all class hours, reading and reviewing biochemistry of nutrition articles, mid-term exam, Semester and final exam

- **Nutrition Ecology**

Prerequisite: Medical Sociology

General objective of the lesson: Familiarizing students with the concepts of ecology and environmental-social and economic factors effective in the production, distribution and consumption of food and mutual effects.

Academic goals:

Know the concepts of nutrition ecology and its relationship with human ecology, Know the history of ecology and the collection and production of food by humans, To state the factors affecting the production, distribution and consumption of food, Know the impact of humans as an ecological factor, Get to know the food sources in the world, Describe social, environmental and economic factors affecting food choices and nutritional status, Explain the role of environmental factors in the occurrence of infectious and chronic diseases.

Lesson description:

In order to provide a multi-system approach in the analysis and understanding of nutritional issues, familiarity with environmental factors, food production, production and consumption, and finally nutritional status for experts, nutrition is essential.

Outlines: (33 hours)

Part 1 - Basics of ecology, The geography of malnutrition, History of ecology, The basic sources of food: land, water, soil, fertilizer, production

2- Population ecology: density and changes like, population structure affecting selection

3- Social, environmental, economic factors affecting , Survival strategies: diversity of species, adaptation Selection inhibits population growth, food and nutritional status

4- The role of environmental factors in the occurrence of the patient: obesity, pressure , Migration and distribution pattern Blood, diabetes, cancer, Man as an ecological factor.

The main sources of the course (references):

the latest edition of the following sources with relevant sources

1. Emberlin JC. Introduction to Ecology. MacDonald and Evans, UK.
2. Atkins, PJ, Bowler IR. Food in Society: Economy, Culture, and Cerography. Edward Arnold
3. Brown Le Re Ba Nan Thanha (Translator: Jazayeri A.) Academic Publishing Center, Tehran.

Student evaluation method: Speech and discussion in the club, Preparation of a report on one of the common nutritional behaviors in the country and analysis of ecologic factors, Affecting it by each group of students, final exam

- **Islamic ethnic and education**

Prerequisites: -

General description: This course is designed to familiarize students with the principles and concepts of Divine ethics in the field of moral virtues and vices, virtues and in order to avoid Moral vices. The belief that what's moral and what's immoral is commanded by the divine the theory asserts that what is moral is determined by what God commands, and that for a person to be moral is to follow his commands. Followers of both monotheistic and polytheistic religions in ancient and modern times have often accepted the importance of God's commands in establishing morality.

The theory asserts that good actions are morally good as a result of their being commanded by God, and many religious believers subscribe to some form of divine command theory.

- **Islamic Revolution & its origins**

Prerequisites: -

General description: This course explores the making of the Iranian Revolution of 1978-79 and the subsequent establishment of the Islamic Republic. Framed in a comparative perspective, it explains the cultural and political peculiarities that shaped the Islamist outcome of the Revolution This course provides an in depth introduction to the modern history of Iran with a focus on the cultural and political factors that culminated in the 1979 revolution.

- **Technical English**

Prerequisite: English from general courses

General objective of the lesson:

At the end of this lesson, the student is able to read scientific texts on nutrition in English and Persian returned

Academic goals:

Explain selected English texts from nutrition science books in English and define nutrition science words and terms in English.

Lesson description:

Considering that most scientific books and magazines in the field of nutrition and dietetics are available in foreign languages (English). In order to obtain up-to-date scientific information in this field, students must be able to access these sources use

Outlines: (34 hours)

Learning words and special terms in the field of nutrition science and dietetics in English, Learning and understanding the English content of special nutrition science and dietitian books, Considering that most scientific books and magazines in the field of nutrition and dietetics are available in foreign languages (English), in order to obtain the latest scientific information in this field, students must be able to read these sources use.

The main sources of the lesson (references):Selected texts from specialized books and magazines,
Student evaluation method: Midterm and final exam, class project

- **Nutrition Physiology**

Prerequisite: basic nutrition 1 and 2 physiology

General objective of the lesson:

After passing this course, the student will be able to understand the principles of physiology and the functioning of the effective balance system Describe nutrition in the body.

Academic goals:

Explain the composition of the human body, Explain the physiological mechanisms effective in satiety, hunger, obesity and thinness, Explain the physiological aspects of digestion and absorption of carbohydrates, fats, proteins. Explain the mechanism of effects of stress, hormones, exercise and medication on nutrition. The mechanism of the effect of food on the immune system and also in the development of various cancers, explanation.

Lesson description:

This unit provides basic information necessary for better learning of diet therapy courses for students of dietetics and basic information for students of nutrition sciences.

Outlines (24 hours)

Absorption system and post-attractive energy balance of the body, hunger, obesity and thinness, temperature regulation and balance, immune system and nutrition, function of specialized cells in the body (audio cines, hepatocytes, myocytes), the role of hormones in nutrient metabolism, growth.

The main sources of the course (references):

the latest edition of the following sources

1. Stipanuk, M. H. Biochemical and Physiological aspects of human nutrition. WB Saunders. Philadelphia, PA, USA.
2. Shills, et al. Modern nutrition in health and disease. Lippincott, Williams & Wilkins. Baltimore, MD, USA.
3. Brody, T. Nutritional biochemistry. Academic Press. San Diego, CAUSA.

Student evaluation method: multiple choice test - semi descriptive test - class activity

- **Principles & Methods of Food Preservation**

Prerequisite: General Microbiology, Public Health

General objective of the lesson:

At the end of this course, expect knowledge :The student should learn the principles of food preservation methods, Know the history and importance of the principles of food preservation, Explain the principles of food preservation using the following methods: High and low temperature drying, evaporation and condensation, fermentation, radiation, Chemicals, Explain the importance of packaging in food storage, Describe complementary methods of food preservation.

Lesson description

The correct way to store different foods, the methods of prolonging the life of food are essential knowledge, He is an expert in nutrition science.

Outlines: (33 hours)

The history and necessity of food preservation, the methods of food preservation using the following methods:

High temperature and after drying, evaporation and concentration, fermentation, radiation, chemicals, The importance of packaging in food storage, Complementary methods of preserving lyrical materials, The main sources of the course (references):

the latest edition of the following sources

1. New methods of food preservation, 2. Food processing recent development, 3. Food processing technology, 4. The technology of food preservation

Student evaluation method: Midterm exam and final exam, class activity.

- **Dietary Planning**

Prerequisite: basic nutrition 1 and 2

General objective of the lesson:

At the end of this course, the student is expected to be able to design and adjust the correct meal plan according to the nutritional needs of the socio-economic conditions and food habits and culture for each individual or specific group. Academic goals:

Features and application of standard tools in designing and adjusting diet (food intake patterns)

The nutritional needs of each age-sensory group according to physiological conditions and physical excellence, (Job) to explain them in order to calculate and adjust and design a healthy diet, Discuss the RDA and DRI standards and describe how to apply them in the diet, Explain how to achieve the nutritional adequacy of the diet as well as the components of a diet. Explain the dietary guidelines and the food groups completely. Explain the methods of calculating basic energy (REE) and required energy (TEE) for all members of the society separately, Explain the age and sex of the grandchild using the substitution list (discuss the substitution list and teach the clients, describe how to use the tables, describe the food ingredients. Explain the value of food labeling.

Skill goals:

All the nutritional needs and the total energy needed by the people of the society in all the different periods of life, Calculate, analyze, analyze and discuss

At the end of the course, the student can understand all the nutritional issues and lifestyles of people in different eras, Teach life from infancy to old age, the regulation and design of the diet to greet and cause, Promote community health, prevention and nutritional treatment

Lesson description:

One of the main programs of providing nutritional services to healthy and sick individuals and groups is to adjust meal plans based on their needs and general conditions, so empowering students in the application of nutrition science in setting meal plans is of particular importance.

Outlines: (17 hours)

Principles of food planning, Determining required nutrients (RDI, RDA), Food guides and food grouping (familiarity with the points of agreement and differences of the guides and groupings of care in different countries and cultures) cultural and social aspects in food planning, Advanced labeling, Setting up a diet for a hypothetical person with certain characteristics, based on guidelines and a food pyramid,

The main sources of the course (references):

the latest edition of the following sources with relevant sources,

1. Mirmiran Peh, principles of meal planning, Special Diseases Foundation, Tehran

2. Mahan. LK, Escott-Stump S. Kraus's Food, Nutrition and Diet Therapy. WB. Sounder Co. Philadelphia. (Chapter 16.)

Student's way of studying: problem solving method (case study) written test

- **Nutrition therapy I**

Prerequisites: principles of meal planning, nutritional physiology, pathophysiology

The overall goal of the course:

After completing this unit, the student will be able to learn and implement the principles and application of treatment regimens and how to set up nutritional care programs in health centers. Knowledge goals of dietetics, history and importance of dietetic therapy in improving the patient's condition, knowledge, skills and duties of dietetics in the health team and how to cooperate with doctors and nurses. Familiarize yourself with various methods of calculating the nutritional needs of inpatients and outpatients. Know the basic hospital diets and explain how to adjust their types (liquid, soft, high-work, high-protein diets) in different clinical conditions. Explain the principles of setting up a nutritional care plan. State the screening criteria for patients at risk of malnutrition and evaluate the nutritional status of hospitalized patients and explain the types of hospital malnutrition. Describe how to file nutritional records of patients and report treatment progress. Explain the types of special nutritional methods (tube, intravenous, etc.) - explain how to adjust the nutritional care plan for patients under metabolic stress conditions (surgery, infection, burns, etc.) as well as congenital metabolic errors. Explain the interactions of food, medicine and nutrients in different conditions.

Lesson description:

This lesson is the basis of getting to know the science of dietetics and its application in setting nutritional care programs in clinical fields.

Outline of contents (51 hours)

dietetics, diet therapy and the importance of its role, knowledge, skills and description of dietitian's duties in semi-health. The methods of calculating the nutritional needs of inpatients and outpatients, the characteristics and application of basic hospital diets (liquid, soft, protein-based diet, etc.) in various clinical cases, patient nutritional needs and problems, screening patients at risk of malnutrition, special nutritional methods with tubes, veins, etc.) Preparatory care program in metabolic stress (surgery, trauma, burns, etc.), congenital metabolic errors and nutritional care, Types of hospital malnutrition, how to file a patient's nutrition file and prepare a treatment progress report.

The main sources of the course (references):

the last and the following sources with relevant sources

1- Mahan, L. K., Escott-Stump, S. Krause's Food Nutrition and Diet Therapy Saunders Company, Philadelphia, PA, USA. WB.

-2 Shils, M. E., Olson, J. A., Shike, M., and Ross, C. A Modern Nutrition in Health and Disease. Lippincott Williams & Wilkins, Baltimore, MD, USA.

-3 Escott-Stump, S. Nutrition and Diagnosis - Related care .Lippincott Williams & Wilkins, Baltimore, MD,

Student evaluation method: Mid-semester exam, end-of-semester exam, problem solving

- **Assessment of nutritional status**

Prerequisite: basic nutrition, disease epidemiology

General objective of the lesson:

It is expected that after completing this course, the student will be able to evaluate the nutritional status of a person using different methods and diagnose nutritional problems based on that.

Academic goals:

Get to know the history and importance of examining a person's nutritional status and related terms.

Know the steps to check nutritional status, Explain the different methods of examining nutritional status as follows: nutritional history and socio-economic examination (eating habits, nutritional awareness, security food and health statistics), Types of food consumption checks (24-hour food intake, food basket, notes, food, direct observation and weighing method), Anthropometric examination (height, weight, circumference of measures, body mass index and skinfold thickness), Biochemical and laboratory examination (profile of lipids, carbohydrates, proteins, hematology, vitamins and correction), Clinical examination (diagnosing symptoms of malnutrition caused by deficiency and excess intake), Explain the advantages and disadvantages of each of the above methods, Explain the standards and boundary lines used in each of the inspection methods.

skill goals:

In each of the methods of checking the indicators used in the diagnosis of common abuses used, Interpret the data obtained from the measurement of the desired indicators. Based on the interpretations of the measured data, recognize the nutritional status of the person.

Lesson description:

Nutritional status assessment methods are an important part of the nutritionist's diagnostic activities, by which the lack or overload of nutrients and the risk of nutrition-related diseases are measured in order to design and implement appropriate interventions based on that.

Outlines:

A, theoretical part: (34 hours) introduction of each of the following evaluation methods, standards and line, advantages and disadvantages of each method, nutritional history, including socio-economic status, behavioral pattern, history of weight changes, and the history of taking drugs and sarees, Evaluation of food consumption, including 24-hour memory, food frequency, lyrical notes, observation, Direct and weighing method, Anthropometric methods, including measurement and interpretation of height, weight, measures, body mass index, thickness, skin fold, Biochemical and laboratory evaluation, including lipids, carbohydrates, proteins, hematology, Vitamins and minerals, Clinical examination including diagnosis of symptoms caused by deficiency or overload of nutrients in the body

b. Practical part, (34 hours) In this part, students practically use laboratory measurement tactics. He is familiar with anthropometric tools, evaluation of food consumption and nutrients and applies and interprets them as a case study.

The main sources of the course (references):

the latest edition of the following sources or related sources

Jelliffe and Jelliffe. Assessment of Nutritional Status Oxford University Press, New York

2. Barkauskas VH, Baumann LC, Darling-Fisher CS. Health and Physical Assessment. Mosby, Philadelphia.

3. Pressman AH, Adams AH. Clinical assessment of nutritional status. Williams & Wilkin

4. Sauberlich HE Laboratory Tests for the Assessment of Nutritional Status. CRC Press.

Student evaluation method: Written test for knowledge-cognitive field, Preparing a report on the evaluation of 10 classmates using a selection of taught methods, (For the field of functional-knowledge attitude.

- **Nutrition in the Life Cycle**

Prerequisites: Physiology of digestion, principles of meal planning

General objective of the lesson:

At the end of this course, the student is expected to know the nutritional needs and factors affecting the nutritional status in pregnancy, breastfeeding and infancy and the methods of nutritional assessment and improving the nutritional status of these groups, Discuss and analyze,

Academic goals:

To know the history and importance of nutrition in different periods of life (pregnancy, breastfeeding and breastfeeding). Get to know the basics of physiological changes on nutrition in different periods of life. Explain the needs of nutrients in different periods of life, the factors affecting nutritional status and common problems in each of the different periods of life. Description: Explain the preparation recommendations in each of the periods.

Skill goals:

He identified the nutritional problems in one of the groups and provided the necessary recommendations for them

Lesson description:

One of the professional duties of nutrition experts and dieticians is to diagnose nutritional problems and provide nutritional services in order to improve the health of the discussed periods, so their familiarity with the basics of physiological changes and the juice of improving nutritional health is of particular importance.

Outline of contents (33 hours)

Basics of physiological changes, nutrient requirements, special methods for assessing nutritional status and factors, Affecting it, common health-nutritional problems and dietary recommendations in pregnancy period, breastfeeding period, Infancy (zero to 2 years)

The main sources of the course (references): the latest edition of the following sources with relevant sources

1. Mitchell MK. Nutrition across the Life Span. W.B. Saunders Company, Philadelphia.
2. Worthington-Roberts BS, Williams SR. Nutrition in Pregnancy and Lactation. Mosby.
3. Pipes PL, Trahms CM, and Nutrition in infancy and childhood, Mosby.

Student evaluation method: Lecture and discussion in class, Written test for academic field, Solving case problems

- **Islamic Texts**

Prerequisites: -

General description: Acquaintance with ancient conceptions of the divine in various contexts. This course serves as an introduction to the revelation of God and our response of faith. We explore the transmission of revelation and the dynamism of the adventure of faith. This course promotes personal reflection and holistic formation in participants.

- **Food Sector Management**

Prerequisite: Basics of Psychology, Basic Nutrition 1 and 2, Medical Sociology

General objective of the lesson:

By passing this unit, the student should be able to do food service programs in different centers

Organize, plan and direct the planning, preparation and distribution of food for different groups.

Academic goals:

Describe the group feeding service system, Describe the concepts of group feeding service system,

Describe the implementation of management through the system method, Describe the implementation of management in the market-process-warehouse-distribution subsystem, Explain the national-international standard (sanitary-monitoring-nutritional), Implementation of management in different sectors of group feeding (health-educational-military-entertainment, describe transportation).

Lesson description:

Considering that one of the professional roles of nutrition and dietetics experts is management and planning of food preparation and production and quality assurance in group food preparation centers, getting to know the principles of management in different stages of preparation and distribution of healthy and safe food in centers such as hospitals, orphanages, centers for the elderly, canteens of offices, factories, schools, sanatoriums, knowledge and skills are essential in this field.

Outlines: (34 hours)

Principles and types of food service systems and subsystems, planning and preparation of organizational food menu, planning and monitoring food production (purchasing, storage, production quality and grain distribution methods, familiarity with national and international principles and standards of health and

safety of employees, environment and equipment, Principles of human resource management, Setting budgets and financial reports, Getting to know the principles of building design and layout of internal components of food service centers a group,

The main sources of the course (references):

the latest edition of the following sources or related sources

1. West BB, Wood L. Food Service in Institutions. Macmillan Publishing Company New York.
2. Splaver B. Successful Catering. (Reynolds WN, Romen M, Ed). Van No strand Reinhold, New York.

Student's evaluation method: written test for the cognitive-knowledge area of a report of a visit to one of the relevant centers

- **Medical & hospital terms**

Prerequisite: Technical English

General objective of the lesson:

By passing this unit, the student should be able to know the terms common in hospitals and health centers, treatment and communicate with other medical colleagues.

Academic goals:

Explain the meanings of common prefixes, Explain the meanings of common suffixes, Explain the meanings of common roots, and define common medical-hospital terms and abbreviations, Explain all common terms and expressions used in connection with nutrition in health centers, All common terms and expressions used in connection with nutrition in different sectors, A hospital including surgery, internal medicine, kidney, endocrinology, etc.

Lesson description:

The field of nutrition and dietetics is considered a subgroup of the field of medicine and the common language, Know how to work closely with health team members.

Outlines: (17 hours)

Prefixes, Suffixes, Roots, Anatomical terms, Diseases, Digestive tract, Abbreviations.

References: The latest edition of the following sources with relevant sources

1. Willis, M.C. Medical terminology: Programmed learning approach Language health care. 2002. Lippincott, Williams & Wilkins. Baltimore, MD, USA.
2. Cohen, B.J. Medical terminology: An illustrated guide. 2000. Lippincott, Williams & Wilkins. Baltimore, MD, USA.

Student evaluation method: Interpreting the terms in an end-of-semester exam 75%

- **Effect of process on value of foods**

Prerequisite: principles and methods of food preservation, chemistry and food analysis

General objective of the lesson:

At the end of this course, the student should be able to correctly apply nutrition science and underlying scientific principles, Describe organization, selection, preparation and food safety, Scientific objectives to explain the types of food processing methods, Explain the effects of heat treatment, freezing and drying on the nutritional value of food. The effects of harvesting, storage in warehouses and cold stores, and packaging on the nutritional value of materials, Express the food, Explain how to enrich different foods.

Lesson description

Knowledge of physiological and biological sciences in the changes that occur in different stages of the process in food, It can be essential for experts in the field of nutrition science.

Outlines: (34 hours)

Types of food processing methods, The effects of hygiene, storage in warehouses, cold storages and packaging on the nutritional value of food, The effects of purification, freezing heat and drying on nutritional value, The effects of preparation, preparation and cooking process on the nutritional value of food, How to enrich food.

- **Diseases Arising from Malnutrition& Epidemiology**

Prerequisite: nutrition physiology, disease epidemiology

General objective of the lesson:

It is expected that at the end of this lesson, the student will be able to understand the causes and factors affecting malnutrition, caused by the lack of nutrients in Iran, identified the ways and necessary measures in, Explain their prevention and control.

Academic goals:

- Define each of the diseases caused by nutrient deficiency, Define each of the chronic diseases related to nutrition, Describe the classification, clinical, anthropometric, and biochemical symptoms of diseases caused by nutrient deficiency and interpret, Describe the classification, clinical symptoms, anthropometry, biochemistry of head diseases related to nutrition to interpret, Explain and interpret the effective factors and causes of diseases caused by nutrient deficiency, Describe and interpret the effective factors and causes of chronic diseases related to nutrition.

Training objectives:

Diagnose diseases caused by nutrient deficiency, Diagnose chronic diseases related to obesity, Calculate and determine the prevalence of diseases caused by the lack of gastric substances, Use the necessary methods to control and prevent diseases, Classify and compare types of diseases, Investigate and analyze the spread of diseases - Analyze the causes and effective factors of epidemic diseases. Design intervention methods and necessary recommendations for nutritional diseases. Recommend ways to prevent and control diseases.

Lesson description:

One of the duties of a nutrition expert is marriage and promotion of nutritional health in individuals and society, Identifying the causes and factors affecting the occurrence of chronic diseases and ways to prevent and control them, Knowledge and skills are essential for this group.

Outlines of 34 hours

Myology of diseases, Cardiovascular diseases, atherosclerosis, hyperlipidemia, high blood pressure, diabetes, osteoporosis, Cancers, Gout, rheumatoid arthritis, Connective tissue diseases

The main sources of the course (references):

the latest edition of the following sources or related sources

1. Willett W Nutrition Epidemiology, Oxford University.
2. Stratton RJ, Green CJ, Elia M. Disease. Related malnutrition. CABI

Student evaluation method: Speech and discussion in class, Preparing a class report about one of the common chronic diseases in the country and analyzing its causes, Final exam of the semester

- **Nutrition therapy II**

Prerequisite: diet therapy

General objective of the lesson:

After passing this unit, the student will be able to set up a nutritional care and treatment plan Nutritional medicine for metabolic diseases, eating disorders, cardiovascular diseases, cover the nervous disorders, The scientific goals of epidemiology, etiology, nutritional status assessment indicators, how to adjust various treatment regimens, Various clinical conditions, food and drug interaction effects and nutrients, dietary recommendations and methods, Describe the change in nutritional behaviors in the following disorders, Metabolic diseases (obesity, weight loss, diabetes, hypoglycemia, gout, etc.), Eating disorders (anorexia nervosa, bulimia nervosa), Cardiovascular diseases, hyperlipoproteinemia , acute heart failure, surgery and hypertension, Disorders of the digestive tract, kidneys and bile, kidney Diseases, Neurological disorders and disabilities

Lesson description

This course is an introduction to the science of dietetics in the field of the aforementioned diseases and its application, Nutritional care programs in the clinical arena.

Outlines: (51 hours)

Epidemiology, etiology, nutritional status evaluation indicators in the following diseases, how to adjust various types of treatment regimens in different clinical conditions, the effects of food and drug interactions and nutrients, dietary recommendations and methods of changing nutritional habits and behavior in metabolic diseases, obesity and thinness, diabetes , hypoglycemia, gout, etc.) eating disorders (anorexia nervosa, bulimia nervosa), Diseases of the heart and coronary arteries, Cyril Ronchitis, current heart failure, surgery, Hypertension related to nerves and mental disorders (epilepsy, concussion, Parkinson's, Alzheimer's...),

Main sources (references) :

The latest edition of the following sources

1- Mahan, L. K., Escott-Stump, S. Krause's Food Nutrition and Diet Therapy.

WB Saunders Company, Philadelphia, PA, USA

2-Shils, M. E., Olson, J. A., Shike, M., and Ross, C. A. Modern Nutrition Health and Disease Lippincott Williams & Wilkins, Baltimore, MD, USA.

3-Escott-Stump, S. Nutrition and Diagnosis-Related care Lippincott Williams & Wilkins, Baltimore, MD, USA.

Student evaluation method: Half-term exam, soft end exam, Problem Solving

- **Nutrition economics & Planning**

Prerequisite: Medical Sociology

General objective of the lesson:

At the end of this lesson, the student will be able to understand the principles of strategic and operational planning and step, Explain the planning, diagnosis of needs, management and evaluation of nutritional programs and Introduce successful examples of nutritional programs in the world.

Academic goals:

To express economic concepts related to supply and demand and food prices. Name the principles and stages of nutrition planning. List and define the levels of strategy in the nutritional program. Explain the components of nutritional programs. Describe the evaluation methods of the program.

Skill goals:

Classify and analyze the planning stages and components of a specific nutrition plan, criticize and evaluate the selected nutrition plan.

Lesson description

One of the main roles of nutrition experts is designing and managing and implementing nutritional programs, The community level in the form of various organizations is responsible for providing nutritional services. I am familiar with the principles, It is very important for them in the management of nutritional programs.

Outlines: (33 hours)

Program design steps:

Assessing and determining the needs of the community and the target community (methods of collecting and analyzing health information -community nutrition), Tassail needs assessment, Determining main and secondary goals, Preparing the work plan, preparing the management and monitoring system in the program, Cost estimation and determination of budget and financial resources, Important points in the

implementation of the program to evaluate the implementation and effectiveness of the program, Time Management

The main sources of the course (references), the latest edition of the following sources or related sources

1. Boyle MA, Morris DH. Community Nutrition in Action. West wadsworth, London.
2. Owen AY, Frankele RT. Nutrition in the Community. Times Mirror, Mosby, and Toronto.

Student evaluation method: Lectures and discussions in class, Written test for cognitive and knowledge field, Prepare a report of a nutritional program and analyze the various aspects of its planning and present for Attitudinal and knowledge field

- **Nutrition Education**

Prerequisite: Basics of psychology, nutrition in life stages

General objective of the lesson:

It is expected that at the end of this course, the student will be familiar with different methods of nutrition education and counseling and design and implement a suitable training program.

Academic goals:

Explain the principles of education and counseling and the basic concepts, define learning theories, Name the teaching aids, Explain the importance of nutrition education and counseling. Explain the methods of nutrition education and counseling, Explain the role of education and counseling in changing nutritional behavior, Describe educational aids in nutrition education.

Skill goals:

Acquire the necessary skills to communicate effectively, Teach a nutrition education program, Use and practice nutrition education tables and methods for the target groups of the society, prepare teaching aids and use them, It is rare to implement a formulated nutrition education program, To analyze the intervening factors in nutrition education in behavior change, Compare and analyze teaching methods. Compare the most famous global nutrition education programs, Evaluate educational programs. Recommend educational methods.

Lesson description

At the end of this lesson, students should be able to understand nutrition education programs and nutrition messages, Design and nutrition counseling and education strategies and evaluation methods of programs and resources, Discuss and apply the training

Outlines:

Theoretical part: 17 hours) Familiarity with learning theories and examples of behavior and behavior change and application, They are in nutrition education, Communication skills (verbal, written and non-verbal communication skills), Counseling: types of counseling, stages of counseling, nutritional counseling components, Principles of designing and implementing nutrition education programs and messages, Evaluation methods of nutrition education programs and messages, Methods of preparing and evaluating educational materials, The use of mass media and how to work with them in promoting nutritional health.

Practical part: (34 hours) developing and implementing an educational program to change the behavior of the target group, Associated with a common nutritional problem in that group.

Interview: types of interviews, interview conditions, interview sections

The main sources of the course (references):

the latest edition of the following sources or relevant sources

1. Boyle MA, Morriss DH. Community Nutrition in Action. West, Wadsworth
2. Gibson RL, Mitchell MH. Introduction to counseling and guidance. New Jersey:Prentice International.
3. Nutrition Skills and Counseling Glaner Keh Markus Na Raymul to health behavior and health education: research theory Performance (Translator: Dr. Forough Shafiei) (Volume 2), Khushin Publishing House, Tehran

Student evaluation method: someone's test for cognitive attack using the (ASCII) method, preparation and implementation of a training program for a specific person (for psycho-motor area -operational)

- **Nutrition of Special Groups**

Prerequisite: Nutritional Physiology, principles of meal planning,

General objective of the lesson:

At the end of this course, students will be able to address major nutritional issues in special case groups, Define the discussion and describe and identify their needs and suggest appropriate interventions,

Academic goals:

Explain the physiological, psychological and social characteristics of each of the discussed groups, Describe the nutritional and psychosocial needs of each of the discussed groups, The characteristics of the food pattern and the factors affecting the nutritional behavior of each of the groups, Describe the study, Nutritional status assessment methods and health screening criteria in each of the groups Describe the closure, Describe common nutritional health issues and problems in each of the groups.

Skill goals:

Classify and compare nutritional needs in different periods of life, Nutritional issues of selected cases (case study of the group diagnosed and methods, Prevent and treat it.

Lesson description:

One of the duties of nutrition experts is to provide nutritional services to special groups. Therefore, knowing the nutritional needs and issues of these groups is considered an essential knowledge and skill for these experts can be

Outlines (34 hours)

Familiarity with the middle and causes of changes in needs in the discussed situations and understanding the necessary points in planning and nutritional intervention for them ,

1. Nutrition and exercise, exercise physiology, concept and physical fitness, energy sources in parallel and non-exercise activities, nutritional needs of athletes, food planning for athletes and suggesting suitable interventions, 2. Nutrition and vegetarianism, getting to know the types of vegetarian groups, nutrition in

vegetarianism, nutritional issues of types of vegetarian groups, vegetarianism and health and suggesting interventions 3. Nutrition and addiction: the effect of alcohol, caffeine, tobacco, other drugs such as heroin, cocaine and opium on, Health and nutritional needs and suggest appropriate interventions 4. Nutrition in emergency situations Nutritional issues in natural disasters such as floods and Refugee camps, the concept of hunger and appropriate nutritional planning Food and food rations of military personnel 1. Feeding in the conditions of decreasing or increasing air pressure: high altitude or depth, Feeding in the conditions of removing the gravitational force of feeding in space, Enema in physical and mental disabilities,

The main sources of the course (references):

the latest edition of the following sources with relevant sources

1. McArdle WD, Katch FT, Katch VL. Sports & exercise nutrition Lippincott Williams & Wilkin, and London.
2. Sabate J. Vegetarian Nutrition. CRC Press, London.
3. Alken LH, Howson CP. Estimated mean per capita energy requirement for planning emergency food aid rations. Institute of Median. Nutrition Academy Press.

Student evaluation method: Lectures and discussions in the class to solve case problems (Problem Based Learning method), Written test for the cognitive field

- **Seminar**

General objective of the lesson:

Familiarizing students with how to study, reviewing the summary of contemporary researches in the field of food and nutrition and strengthening, Written and oral presentation skills of scientific materials

Academic goals:

Know how to effectively use the library and databases, Familiarize yourself with the content of scientific articles in the sources.

Skill goals:

Choose the desired subject under the supervision of the supervisor, Collect related articles from databases and information sources, Summarize the selected articles on the topic, Write a scientific article from the collected articles, Present the prepared essay orally using appropriate and new educational aids, Prepare a written report of your article.

Lesson description:

One of the main roles and functions of nutrition experts is the ability to summarize and analyze scientific materials and present them to different groups. This lesson can play an important role in strengthening this skill.

Outlines: (34 hours)

How to effectively use the library and databases, Summarize the article, Presenting the article in writing

Presentation of the article in the form of a speech

Main sources (references):

the latest edition of the following sources or related sources

- 1- Rouhani Rankohi, M. T. The method of presenting scientific-technical materials, Jaloh Publications, Tehran.
 - 2- Azizi, F. Learning and research methods in medical sciences, Nash Javan, Tehran.
 - 3- Articles from reputable scientific journals
 - 4- Reliable and scientific databases on the Internet
- Written presentation of the article 30% Active participation in the class discussion 30%

Student evaluation method: Oral presentation of the article 50%

- **Internal medicine ward:**
- **Diabetes and Endocrinology unit: (51 hours)**

General purpose of the lesson

By passing this unit, the student will be able to gain skills in determining the nutritional status of nutritional care patients and how to provide supplementary nutrition and nutritional counseling. Practical goals: At the end of the internship in clinical and consulting services, the nutritionist should be able to: evaluate the nutritional needs of the patient according to the medical record, interview the patient with the relatives, with each of the medical staff, and evaluate the nutritional priorities Determine the basis of the type of malnutrition and whether it is acute or chronic under the supervision of a clinical nutritionist and diet therapy. Prepare a nutritional care plan based on the interpretation of anthropometric, clinical and laboratory nutritional records, in accordance with the patient's social, economic and occupational status, and briefly evaluate the patient's knowledge, attitude and use of diet and include it in the file. In the case of diseases such as type 1 and 2 diabetes or gestational diabetes, he should examine the patient's knowledge about the types of carbohydrates and the method of treating carbohydrates, and if necessary, he can provide the necessary forgiveness according to the patient's level of understanding. Include the data related to the evaluation of the nutritional status according to the SOAP model and the care plan of the desired interventions (either the suggested regimens or the training sessions) in the patient's medical record in such a way that it can be used by other medical staff with interpretations to understand the index change. Biochemical, Pliny, the status of quantitative and qualitative intake of food, monitor the progress of nutrition, provide the patient with many special food orders while maintaining the variety of menus, and if necessary, provide training related to proper nutrition for the patient with each person. that duty to take care of He is responsible for providing the patient , adjust the diet based on the interference with the therapeutic diet and should be able to adjust the patient's diet with any injectable and oral medication according to the guidance of the instructor based on drug dosage (the name of injectable insulin) Inform the patient and any other person who takes care of the patient about the effect of physical and sports activities and the requirements of the lips caused by such activities.

Evaluation method: check list, Final case study report,

- **Gastrointestinal, Liver and Pancreas unit (51 hours)**

Aim of the lesson:

At the end of this lesson, the student will be able to communicate with half-treatment in the internal department, Adjust and follow the patient's treatment regimen, Skill Objectives Assess the patient's nutritional needs and condition by visiting and interviewing him, his relatives, and the doctor and with primary screening, he can put patients at risk under the supervision of a clinical nutritionist and identify the treatment regimen, Set up a nutritional care plan based on recent nutritional records, anthropometric, clinical data and interpretation of laboratory results. To evaluate the patient's knowledge about diet and natural nutrition and consumption and his need for further education. Consult the doctor about the patient's need to use a special nutritional method (tube feeding, intravenous feeding). Record the data related to the assessment of nutritional status and nutritional care plan in the patient file to do, The nutritional progress of the patient with the quantitative and qualitative control of food intake, a special method of nutritional data, Monitor clinical biochemistry and anthropometry, In order to inform and coordinate with the treatment team, he should prepare a report of his work progress (SOAP) and place it in the patient's medical record. Explain to the patient the treatment regimen resulting from the disease and explain how to follow the diet for him and his relatives when he is discharged from the hospital.

Student evaluation method: check list, Final case study report,

- **Cardiovascular Unit and CCU: (51 hours)**

General objective of the lesson:

It is expected that at the end of this course, the student will be able to assess the nutritional status of patients hospitalized in the cardiac department and evaluate the vessels and adjust, train and follow up the appropriate treatment regimen for him.

Academic goals:

Describe the general workflow in the heart department, Know how to communicate with the officials and staff of the patient department, Explain how to extract information from the patient file.

Skill goals:

Communicate with officials, staff and patients, Extract the necessary history and information from the patient file. If necessary, participate in the morning round and talk with the patient's doctor.

Interpret the nutritional adequacy of the patient and give the score to Calculate the amount of nutrients needed by the patient according to the existing conditions, Set up a suitable treatment regimen for the patient and explain nutritional recommendations to the patient, Enter the information in the patient's file and compile the follow-up and subsequent referrals.

Student evaluation method: check list, Final case study report,

- **Consultation of outpatients:** (51 hours)

General purpose of the lesson

The student can gain skills in nutrition counseling and diet preparation for outpatients in clinics and hospitals

Practical purposes:

By applying the principles of consultation and communication with clients, he interviewed and obtained the necessary information, Prepare and prepare the nutrition file of clients, Information related to anthropometry, biochemistry, nutritional problems, medical records and type, Record and evaluate the treatment, Consumption pattern with different methods of consumption history, registration of three days, seven days, food frequency and evaluate using software if possible, By examining the needs, the level of nutritional awareness and behavior, determine the nutritional care goals of the clients, Set up a proper meal plan. Teach dietary recommendations.

- **Kidney section:** (51 hours)

General objective of the lesson:

By passing this unit, the student will be able to determine the nutritional status of patients.

Nutritional care and how to provide supplementary nutrition and nutritional counseling skills .

Practical goals:

At the end of the internship in clinical and consulting services, the nutrition student should be able to: evaluate the nutritional needs and condition of the patient by visiting and interviewing him and his relatives and the doctor, and with the initial screening, he should be able to identify at-risk patients under the supervision of a specialist. Identify and separate clinical nutrition and diet therapy, set a nutritional care plan based on recent nutritional records, anthropometric, clinical data, and interpretation of laboratory results. to evaluate further education. Consult with the doctor about the patient's need to use a special method (tube feeding, intravenous feeding) data related to the assessment of the nutritional status and follow-up care plan in the patient's file.

Monitor the nutritional progress of the patient with less people and the quality of the food received using a special nutritional, sociological, clinical, and psychometric method. In order to inform and coordinate with the treatment team, he should prepare a progress report (SOAP) and place it in the patient's medical record, If necessary, provide the patient with his dietary instructions in written form. Clarify the relationship between the resulting treatment regimen and the disease for the patient and explain how to follow the Ghanaian diet for him and his relatives when he is discharged from the hospital.

Student evaluation method: Checklist of the final case study report

Pediatrics Section (51 hours)

General objective of the lesson:

The student should acquire skills in nutrition counseling and diet preparation for outpatients

Skill goals:

By applying the principles of consultation and communication with the clients, interview and obtain the necessary information, prepare and compile individual questionnaires and nutritional records of the clients, Information related to individual characteristics, anthropometry, biochemical, nutritional problems, Record medical records and type of treatment, The pattern of consumption with different methods (history of consumption, registration of three days, seven days of consumption, feed frequency and if possible using software) to evaluate, By examining the needs, level of awareness, nutritional behavior and goals, the client's nutritional care plan prepare, Teach dietary recommendations.

Student evaluation method: check list, Final case study report.

Surgery Section, ICU (51 hours)

General objective of the lesson:

By taking this unit, the student will be able to determine the patients at risk of malnutrition and their screening in this department, as well as nutritional care and how to provide supplementary nutrition and counseling, Nutritionist to acquire the necessary skills.

Special goals in the cognitive field:

The student must be able to understand the general needs and problems of this department under the supervision of the internship instructor, Nutrition of the patients of this department with the way of nutritional care and also how to prepare and prepare the final report, Describe the internship in the surgery department.

Skill goals in the surgery department of one of the university-affiliated teaching hospitals to choose the clinical case or cases to be studied in this department together with their supervisor. Collect the information related to the evaluation of the nutritional status of his clinical case(s) by referring to the medical file in the interview with the hospitalized patient and the companions and members of the treatment team under the supervision of his supervisor, Participated in a hospital fishing round with his guide and information, Necessary and clinical condition of the patient through interview and consultation with doctor and nurse and - that in nutrition, The patient can be patient and record the doctor's dietary recommendations, Collected data on Merira's clinical cases to Tersi, Socisiya information, Food pattern of food habits, preferences and clinical problems related to nutrition with the help of professor, Analyze your guide in training classes and group discussion and get information about the treatment goals - about the use of special nutritional methods and supplementary nutrition about your clinical case(s) by consulting with your guide and referring to reliable sources, and the need for this

Write medical nutrition.

evaluate methods:

Pre- and post-surgery treatment regimens for clinical cases) along with food recommendations, taking into account the interactions of food, medicine and gastric substances using daily resources. Report your internship with SOAP format that includes information (subjective (S), non-documented information (O), objective assessment (A) and planning (P) is a vehicle with an introduction of pathology and a brief

description of the disease and surgery with Referring to Prepare reliable internal and external sources and deliver to your supervisor the method of student evaluation, check list, Final case study report

- **Internship food sector management (51 hours)**

General objective of the lesson:

The student can gain skills in managing the group feeding service system.

Knowledge goals: By attending the training classes, the general needs of patients, personnel and service problems, This section describes the setting of the hospital budget and determining the nutritional value and comparing it with the standard

Skill goals:

From health-therapeutic group feeding centers (hospitals affiliated to the university) with the professor

The guide will make a visit and observe and record the organization and service system and its type of activities. Collect and evaluate information related to service management and menu catering, facilities and equipment, personnel, storage, process and distribution, cost of food) under the supervision of his mentor. Compare the existing conditions of the center with national and international standards. - A suitable food pattern according to the number of hospital staff and patients and its food cost Adjust and report.

Student evaluation method: check list, Final case study report

- **Internship food industry factories**

Prerequisite: All courses

The number of hours is 153 hours

General objective of the lesson:

Using the facilities of Pilot- food industry workshops and factories and their laboratories and food control centers to apply theoretical and practical learning in the way of production and quality control of the product.

Special objectives:

The student should be able to understand how food is produced and the tests that are conducted for its quality control, Preparing and explaining the ways of preserving Omani ingredients and also preserving the nutritional value in the form of a basic report.

Skill goals:

Food industry units

1- Students visiting workshops and factories of food industries, including grain industries, milk industries, meat industries, quantity and canning sources, and food quality control laboratories of the Institute of Standard and Holiday and Industrial and chemical control laboratories of excellent materials to familiarize themselves with the working of machines. The score production system is a juxtaposition of water and how to take care of the produced goods Playing various tests of the factory production line,

including warehouses, formulation part, production halls, quality control laboratories, packaging, practical knowledge of GHP, GMP, HACCP control systems.

visits to the side parts of the factory, including the water purification and sanitation supply system

Collecting, purifying and sanitizing the disposal of waste and sewage 4- Getting to know how to select and supply raw materials,

To food monitoring and control centers :

- 1- Internship in the laboratories of the food supervision department of Tehran and other provinces
- 2- - Internship in the food laboratories of the Institute of Standards and Industrial Research and the offices covered and affiliated with them
- 2- Internship in specialized laboratories and food research 1- visiting different parts of the Kamiya experiment, getting to know how to control the quality of food

The relevant tests to recognize the devices and standards related to each of the food items:

Relevant tests to know the devices and standards related to each of the food items and How to accept or reject goods, How to evaluate students: Based on the grades of the written work report, how the student is evaluated by the internship center during On Internship, final oral exam about the activities performed.

- **Internship Rural health center**

Prerequisite: All courses

Village centers (104 hours)

General objective of the lesson:

By passing this unit, the student should be able to identify the health and nutritional problems of the rural community and design and implement the necessary planning to solve them.

academic goals;

Familiarize yourself with the organizations of health houses and rural health centers

Familiarize yourself with the type of services provided at the health center.

Skill goals:

The necessary information to check the nutritional status and solve the problems of each age group

to collect, Analyze the collected data, Based on the analysis done, determine the nutritional status of the existing problems, prioritize the problems and design and implement an appropriate intervention program, Evaluate the implementation plan.

Student evaluation method: check list, Final case study report

- **Internship Urban health center and health center of the city**

(102 hours)

General objective of the lesson:

It is expected that at the end of this course, the student will become familiar with the type of nutrition services in urban health centers and gain skills in providing nutrition counseling in the family health unit.

Academic goals:

The formation of the urban health center and the type of services provided by each of them

Get to know the relevant units, In the family health unit by registering the information in the family file and how to extract it, Get familiar with the information.

Skill goals:

Based on the information extracted from the household file, select at least 3 desired samples and communicate with the selected samples. - Collect additional information about the desired samples. - Analyze the collected information. - Diagnose the nutritional status of the samples based on the analysis, Based on the nutritional status of the samples, provide the necessary nutritional advice to the samples.

Student evaluation method: check list, Final case study report

- **Internship provincial health center**

(102 hours)

The overall goal of the course:

at the end of this course, the student should be able to supervise the executive nutritional programs of the city health center and evaluate the existing situation and create a comprehensive operational plan.

Academic goals:

He is familiar with the city's health center and the duties of each of the relevant unit, Know the position of the nutrition expert and his duties in the family health unit.

Skill goals:

On the implementation of nutritional programs of an urban center for care and prevention) supervision perhaps, Supervise the implementation of the child-friendly program in a hospital, Analyze the information collected from the covered centers, Based on the collected information, evaluate the nutritional issues of the community under its coverage, Based on the type of major problems, compile a sample of a comprehensive operational plan.

Student evaluation method: Checklist of the final case study report

- **Project I, II (Community Nutrition)**

General objective of the lesson:

It is expected that at the end of this lesson, the student will be able to create a health research project in the field of issues To carry out community nutrition under the supervision of a supervisor.

Skill goals:

Select the desired topic, Collect the required information sources in the field of topics, Write your research proposal, Make the necessary arrangements for the implementation of the desired plan. Collect the necessary information by implementing the research plan, Analyze the collected data,

Interpret and evaluate the analysis results, Write the final report of the project.

Student evaluation method: Preparing a proposal 25%, Financial Council: Perseverance and the ability to do research 35%, Presentation of the final report 50%