

REPUBLIC OF TURKEY

USKUDAR UNIVERSITY

FACULTY OF HEALTH SCIENCES

NUTRITION AND DIETETICS

2019-2020 ACADEMIC YEAR COURSE CONTENTS

YEAR ONE (FALL)

FHS141 – Basic Anatomy I (2+0) 2 ECTS:3

Introduction to the anatomy of the human body; Cell, tissue and anatomy of organs. Skeletal-muscle system, circulatory system, respiratory system, digestive system anatomy and functions.

FHS129 – Human Physiology I (3+0) 3 ECTS:5

Introduction to the physiology of the human body, physiology and body chemistry; Physiology of cells, tissues and organs, blood physiology, circulatory physiology, body fluids and kidneys.

NUT107 – Basic Chemistry I (2+2) 3 ECTS: 4

Properties and measurements of matter, atom and atomic theory, introduction and reactions to chemical reactions, atomic structure, periodic table and atomic properties, density, specific weight, temperature relations, atomic structure, isotopes, electron sequences, orbitals, periodic table properties, compounds, bonds, The concept of mole, radioactivity, physical states of matter, general principles of inorganic chemistry, physical states of matter and energy, gases, solutions, solubility, electrolytes, atomic molecular transitions and intermolecular forces: fluids, solids, gases, solvers and physical properties.

NUT115 – Principles of Nutrition and Practice I (2+4) 4 ECTS:6

The chemical structures, classification, functions, sources, suggested daily intake values, overdose and insufficiency conditions, energy balance and body weight control, food groups, nutrient standards, diary Recommended intake quantities, diet pyramid and nutritional supplement, nutrition and health.

Practice: Calculation of nutritional status by diet analysis, calculation of body mass index, calculation of basal metabolism energy and daily energy requirement, diary logging, calculation of nutritional quality index, calculation of nutritional quality index, carbohydrate, protein, fat and energy contents of foods.

TURK101 – Turkish Language-I (2+0) 2 ECTS: 3

In this course, revolution and similar concepts are being studied. The status of the Ottoman State during the period of stagnation and decline and the reform movements made, Tripoli-Balkan Wars, World War I and Mondros Armistice Agreement, Mudros Armistice Agreement implementation, occupations, Mustafa Kemal's exit to Samsun, congresses

and organization, Misak-ı Milli and the Grand National Assembly of Turkey, the national fronts, Mudanya and Lausanne Treaties and Atatürk's understanding of revolution.

ATA101 – Atatürk's Principles and History of Turkish Revolution-I

(2+0) 2 ECTS: 3

This course, revolution and similar concepts. Atatürk 's understanding of revolution, pause - recession period in the Ottoman Empire made the reform movement and the state of the Ottoman Empire, Tripoli - Balkan wars, the First World War and the Armistice Agreement , the implementation of the Armistice Agreement , occupations, Mustafa Kemal ' in Samsun , the congresses and organization, the National Pact and the opening of the Grand National Assembly of Turkey , national fronts, Mudanya and Lausanne Treaty include the subject .

RCUL101 – University Culture-I

(0+2) 1 ECTS: 1

The aim of this course is to enable university students to have intellectual knowledge about social, cultural and political events, to be open to the multidisciplinary information process besides their general curriculum, to be able to think critically, questionably and analytically. At the same time, the student will be able to participate in the seminars of those who are experts in the fields of science, technology, social, political and cultural issues that are discussed publicly outside their fields. Students will have participated in approximately 48-50 seminars and programs throughout their university life.

RPSI209 – Positive Psychology and Communication Skills

(3+0) 3 ECTS: 5

It is this approach that makes it possible for an individual to realize his or her own resources and values in order to be happy, peaceful, successful, and life satisfaction high. Using these values and resources appropriately and creatively for the purpose of the individual allows the individual to use his personal and cultural potential by making conscious choice. These derste students will evaluate their research and conceptual studies on different subject and theoretical approaches (meaningful legislative, gratefulness, judgment, happiness, hope, optimism, positive emotions, personal development after trauma, endurance, self-esteem, strength, time perspective). Students learn how to use methods such as brain mapping, signature strengths, thanksgiving, and seven ways to increase happiness (learned positive, gratitude). The course also covers topics such as basic concepts that constitute the general framework of communication sciences, solutions and suggestions for strengthening communication skills, interpersonal communication, group communication, organization communication, mass communication, public communication, international communication and intercultural communication.

YEAR ONE (SPRING)

NUT114 – Anatomy for Nutrition Science

(2+0) 2 ECTS:3

Endocrine system, excretory system, reproductive system, nervous system and sensory anatomy and functions.

FHS130 – Human Physiology II

(3+0) 3 ECTS:5

Respiratory physiology, nervous system and sensory physiology, digestive physiology, metabolism physiology, sensory physiology, endocrine physiology.

NUT118 – Basic Chemistry II

(2+2) 3 ECTS: 4

Chemical kinetics, principles of chemical equilibrium, acids and bases, acid-base equilibria, introduction to organic chemistry, saturated hydrocarbons (alkanes), unsaturated hydrocarbons (alkenes and alkynes), organic reactions and functional groups, chemistry of living things.

NUT116 – Principles of Nutrition and Practice II**(2+4) 4 ECTS: 6**

Aim of course is to evaluate the structure, properties, classification, functions, sources, recommendation of daily intake, inadequacy, excessive intake and toxicity of vitamins and minerals and evaluate vitamin-mineral contents of foods.

Practices: To teach the vitamins and minerals contents of foods, proper preparation and cooking methods, application of some basic and traditional food recipes within the framework of nutrition principles.

TURK102 – Turkish Language-II**(2+0) 2 ECTS: 3**

This course is designed to provide students with an introduction to a general genre, a formal writing, a thought writing, summarizing and writing such writings, introducing a work place, putting forward an idea or opinion, expressing and criticizing the subject of a writing, Discussion, panel, symposium, forum), features and preparation, marking, punctuation, writing rules and their official writing features, types of sentences and sentences, structure, meaning, arrangement of items according to predicate, types of sentences.

ATA102 – Atatürk's Principles and History of Turkish Revolution-II**(2+0) 2 ECTS: 3**

The revolutions in the political, social, legal, economical and educational fields, the counterinsures to the Republic of Turkey, the internal and external politics of the Atatürk period, the death of Atatürk and the echoes in Turkey and around the world, Atatürk's principles, World War II, The 1960 and 1982 constitutional issues.

NUT154 – Turkey and the World Culinary**(2+0) 2 ECTS: 2**

The definition of cuisine, the cultural dimension of eating and drinking and the features of Turkish and world cuisines, evaluation of local dishes and health relation are included in the course.

NUT109 – Orientation of Profession**(2+0) 2 ECTS: 3**

It includes topics such as introduction to the Department of Nutrition and Dietetics, the concepts of professional ethics and deontology, curriculum, student responsibilities and regulations, and dietitian profession, good professional practices, professional organizations, occupational history and professional resources.

NUT157 – Introduction to Nutrition Sciences**(2+0) 2 AKTS: 3**

The emergence and development of nutrition science and other sciences related to nutrition science are covered by this course.

RCUL102 – University Culture-II**(0+2) 1 ECTS: 1**

The aim of this course is to enable university students to have intellectual knowledge about social, cultural and political events, to be open to the multidisciplinary information process besides their general curriculum, to be able to think critically, questionably and analytically. At the same time, the student will be able to participate in the seminars of those who are experts in the fields of science, technology, social, political and cultural issues that are discussed publicly outside their fields. Students will have participated in approximately 48-50 seminars and programs throughout their university life.

YEAR TWO (FALL)

ENG101 – English-I

(3+0) 3 ECTS: 3

This course includes markers; Prepositions: place, time, motion; Singular and plural names: countable and uncountable names; Time: broad time, present time, past time structures; Moderators: will, should, should not, must, must not, can; Comparative structures; Pronouns: person pronouns, possessive pronouns; adjectives; Positive sentence, negative sentence and question sentences; Conjunctions: and, but, because they contain topics.

NUT209 – Food Chemistry and Practice I

(2+4) 4 ECTS: 6

Classification, chemical properties, structure and classification of enzymes, factors affecting enzyme activity, nutrients and their use in food industry, pigments and taste and odor characteristics and functions of colloid systems, carbohydrates, proteins and fats.

NUT203 – Nutritional Biochemistry I

(3+0) 3 ECTS: 4

The structures of various molecules in life, the chemical reactions of these molecules in cells and organism and their relations with health and diseases; Carbohydrate, lipid and protein metabolism, hormone and enzyme functions, nucleic acid metabolism, metabolic regulation and integration.

NUT217 – General Microbiology

(2+2) 3 ECTS:4

History of microbiology, basic concepts in microbiology, structure of bacterial cells, physiology, reproductive and genetics, antibiotic effect and resistance mechanisms, sterilization-disinfection, factors affecting microbial growth (activator and inhibitor), sterilization-disinfection, immune and microorganism relation, infection and intoxication, Serology and microorganism connection, basic concepts in immunology, basic immunoreaction mechanism, hypersensitivity reactions.

NUT253 – Nutritional Ecology

(2+0) 2 ECTS: 3

Introduction to nutrition ecology, nutrition and nutrition aspects of the interaction between people's physical and biological social and cultural environment, history of nutrients, changes in nutritional status during the ages, differences between nutrient types consumed by societies and their preparation, storage and cooking methods and factors affecting them.

NUT255 – Nutritional Anthropology

(2+0) 2 AKTS: 3

Introducing anthropology and basic sub-disciplines, reviewing human evolution/variation and culture and its elementary components. the relationship between anthropology and nutrition.

NUT254 – Mother and Child Nutrition

(2+0) 2 ECTS: 4

The importance of maternal and childhood nutrition in Turkey and in the world, Physiological and metabolic changes, metabolic adaptation, nutrient (macro and micronutrient) needs in pregnancy and lactation, Nutrition and mental development, Normal infant nutrition, breastfeeding, complementary nutrition and infant formulas.

SOH102 – Introduction to Economics**(3+0)3 ECTS: 4**

The general concepts of economy, economic problems, demand and supply and elasticity models, efficiency and equity, utility and demand, costs and markets. Economical processes and development will be thought.

YEAR TWO (SPRING)**ENG102 – English-II****(3+0) 3 ECTS: 3**

This course tenses: present tense, present tense, past tense, future tense structures; modes: might, could, can, must, may, Envelopes: location, direction, purpose, state envelopes; Adjectives: Order of adjectives, comparisons are made superlative; passive: present, past and future tenses in the passive voice; conditionals; adjective clauses; transfer clauses; verb structures: to, -ing; noun clauses; adverb clauses; topics include comparative structures.

NUT210 – Food Chemistry and Practice II**(2+4) 4 ECTS: 6**

Subjective and objective methods used in the assessment of food quality and nutritional quality. Composition of milk and dairy products, meat and products, eggs, vegetables and fruits, cereals, tea, coffee, etc. Composition of food and beverages, functional and structural properties, bioactive nutrient components and functional foods, genetically modified foods.

NUT204 – Nutritional Biochemistry II**(3+0) 3 ECTS: 4**

The structures of various molecules in life, the chemical reactions of these molecules in cells and organism and their relations with health and diseases; Fat and water soluble vitamins, vitamin-like substances, minerals, water and electrolytes, toughness and fasting metabolism.

NUT218 – Food Microbiology**(2+2) 3 ECTS: 4**

Introduction to food microbiology, factors affecting the reproduction of microorganisms in foods, bacterial spores and indicator microorganisms, fermentation of foods, deterioration of vegetables and fruits, deterioration of water, milk and products and microbiological examination methods. Meat, meat and seafood deterioration, food and water-borne parasites, mycotoxigenic molds and other fungi that cause deterioration in food, viruses that pass through food, food poisoning, methods of storing nutrients.

RPRG104 – Entrepreneurship and Project Culture**(2+0) 2 ECTS: 3**

This course provides students with comprehensive information on how to apply the graduation product rather than the graduation project. Student-centered, involves bringing together all the academics involved in setting real-life goals, discovering new things, problem solving, time management skills and community service.

NUT256 – Medicinal and Aromatic Plants in Nutrition**(2+0) 2 AKTS: 4**

The history and properties of medicinal and aromatic plants, methods of benefiting from these plants in nutrition, preparation of medicines from medicinal and aromatic plants used in nutrition, medicinal and aromatic plants used in nutrition and properties of these plants.

NUT258 – Food Groups and Technologies**(2+0) 2 AKTS: 4**

Food groups and production techniques for these food groups. Dairy and Dairy Products Production Technology: Pasteurized milk, yoghurt and fruit yoghurt, cheese and cheese varieties; Oil production stages, butter, cream production and production technologies; Flour and Bakery Products Production Technology: Bread, Bagels, Pastry, Pizza, Pastry, Cookies, Biscuits, Chocolate, Pasta production stages; Meat and Meat Products Production Technology: Sausage, salami, roasting, bacon, smoked turkey, smoked chicken, nugget, ham; Fruit and Vegetable Products Production Technology: peach, pear, strawberry, stuffed peppers and canned peas, tomato paste, vinegar, pickle production stages.

NUT260 – Demographic Structure and Health**(2+0) 2 ECTS: 4**

Introduction to demography, definitions, data sources, methods, population size, structure and composition; Fertility, factors affecting fertility, mortality, migration, urbanization, maternal-child health, nutrition and anthropometric indicators, population, nutrition and health.

PSI131 – Psychology**(3+0) 3 ECTS: 4**

This course provides students with information on approaches, general theories and applications in psychology to introduce students to psychology in general. The course includes the scientific foundations of psychology, basic concepts in psychology and scientific method, basic processes and applications in psychology, interpersonal relations and communication.

YEAR THREE (FALL)**NUT301 – Nutrition and Diet Therapy in Diseases and Practice I****(3+2) 4 ECTS: 5**

Definition, etiology, complications, clinical manifestations and complications of diabetes mellitus, diabetes mellitus, reactive hypoglycaemia, coronary heart diseases, hypertension, respiratory diseases, digestive system diseases, burns, neurological and psychiatric disorders and medical nutrition therapies.

Practice: Obesity, eating behavior disorders, diabetes mellitus, cardiovascular diseases, hypertension, gastrointestinal system diseases, enteral and parenteral nutrition treatments

NUT303 – Nutrition and Diet Therapy in Pediatric Diseases and Practice I**(3+2) 4 ECTS: 5**

The importance of mother and child feeding in the world and in Turkey, physiological changes in pregnancy and lactation, problems and nutritional needs, nutrition and mental development, 0-1 year old baby feeding, breast milk, supplementary nutrition and infant formulas, (Toddler) and 3-5 age group (preschool / nursery) characteristics, energy and nutrient requirements, 6-12 age group (school) characteristics, energy and nutrient requirements, adolescent characteristics, energy and nutrition Nutritional problems and solutions for children and adolescents, dietary treatment for childhood obesity and eating disorders.

Practice: Clinical case monitoring, gastroenteritis, malnutrition, lactose intolerance and other carbohydrate malabsorption, food allergies, childhood obesity, metabolic syndrome, eating behavior disorders, type 1 diabetes, kidney diseases and nutritional treatments.

NUT315 – Nutritional Assessment of Community**(3+0) 3 ECTS: 5**

Methods and techniques (clinical, anthropometric, biochemical, biophysical, nutrient consumption research, ecological factors, mortality and morbidity statistics) used in determining nutritional status of individual and community.

NUT317 – Food Service Systems I**(3+0) 3 ECTS: 5**

Importance of institutional food service systems, management of food services, kitchen and dining hall building plan, equipment in institutional food service systems, menu planning, methods of food purchasing/ storage and control, work safety

NUT361 – Professional English**(2+0) 2 ECTS:4**

To discuss the basic concepts of professional English related to Nutrition and Dietetics, to improve the reading and comprehension skills of these students, and to contribute to their writing and speaking skills.

NUT363 – Diet Therapy in Eating Disorders**(2+0) 2 ECTS: 4**

Methods of identifying eating disorders such as eating disorders, anorexia nervosa, bulimia nervosa, obturator eating, night eating syndrome, nutritional status of individuals with nutritional behavior disorder, medical nutrition therapy, team approach to treatment.

NUT365 – Nutrition in Special Cases**(2+0) 2 ECTS: 4**

Nutrition during pregnancy, puerperal and elderly periods, nutrition during work periods and special conditions, worker nutrition.

NUT367 – Food Intolerances and Allergies**(2+0) 2 ECTS: 4**

Giving information about allergies, food allergies and allergens, and giving information about allergen-specific foods in general. Food intolerance, food allergy and intolerance types, measures, food sensitivities, lactose intolerance, gluten intolerance, food allergies, sensitivity in infants and young people, carbohydrate intolerance and obesity, milk intolerance, food allergy prevention, food allergy And security in intolerance.

NUT369 – Child and Adolescent Nutrition**(2+0) 2 ECTS: 4**

Preschool and school age child nutrition, Adolescent nutrition, and nutrition related problems.

NUT358 – Nutrition and Genetics**(2+0) 2 ECTS: 4**

Epigenetic and nutrigenetic definitions, nutrigenomic diets and health interactions, nutrigenetic tests.

FHS149 – Basic Genetics**(2+0) 2 ECTS: 2**

Cell structure and function, energy metabolism, nature of genetic material, DNA packaging and fine structure of chromosome, RNA structure synthesis and function, genetic code and protein synthesis, Mendelian genetics, cell cycle, mutation, genetic engineering.

FHS125 – Biostatistics**(2+0) 2 ECTS: 3**

Research planning, establishment of appropriate study and control groups in planning, access to information and data sources, research design, utilization from computer, measurement of variables.

YEAR THREE (SPRING)**NUT302 – Nutrition and Diet Therapy in Diseases and Practice II****(3+2) 4 ECTS: 5**

Nutrition and health / disease relationship, nutritional deficiencies and disorders, nutritional problems, liver diseases, biliary diseases, kidney diseases, infections, bone-joint diseases, nervous system diseases, arthritis and food allergies diet treatments, enteral and parenteral nutrition.

Practices: Infectious Diseases, AIDS, Cancer and Nutrition, Renal Diseases and Nutrition, Liver diseases and Nutrition, gallbladder and pancreas diseases and Nutrition, Burn, Pre and Post Operative Term, metabolic stress and Nutrition, Diagnostic Test Diets, Food and Drug Interactions, infections and Nutrition, AIDS and Nutrition, Allergy and nutrition, Neurological and Psychiatric Disorders, Musculoskeletal System Diseases, Gout and Nutrition, Pulmonary diseases and Nutrition.

NUT304 – Nutrition and Diet Therapy in Pediatric Diseases and Practice II**(3+2) 4 ECTS: 5**

Case monitoring in clinic, acute gastroenteritis, malnutrition, malabsorption syndromes, metabolic diseases, food allergies, childhood obesity, metabolic syndrome, eating behavior disorders, type 1 diabetes and their dietary treatments, enteral and parenteral nutrition in children.

Practices: Enteral and parenteral nutrition, prematurity, cystic fibrosis, Inborn errors of metabolism, neoplastic diseases, infectious diseases, neurological disorders and nutrition therapies.

NUT316 – Community Nutrition and Epidemiology**(3+0) 3 ECTS: 5**

Identification of nutritional problems in society, evaluation of nutrition on prevention and etiology of diseases, establishment of nutrition and nutrition plans and policies for the protection and development of health in special community groups. (For example, preparing nutrition guidelines for school children and adults.)

NUT318 – Food Service Systems II**(3+0) 3 ECTS: 5**

Aim is to teach food preparation and cooking methods, providing food safety, HACCP system and ISO 22000 food safety management system and differences between commercial and non-commercial food service systems.

NUT352 – Food and Health Legislation**(2+0) 2 ECTS: 4**

Legal regulations and sanctions related to food, factors that disturb food safety; food additives, pesticides, metallic contaminants, plastic monomers and detergents.

NUT354 – Nutrition Counseling Services**(2+0) 2 ECTS: 4**

Introduction to nutrition education, principles of nutrition education, models of nutrition education programs, development of education programs to raise awareness about nutrition in the society, examples of nutrition education programs, basic principles in pregnant and motherly mother education, in-service training for staff working in food

services, behavior modification methods developed for people with body weight management problems. Concepts and principles of counseling, patient-centered approach, nutrition counseling.

NUT356 – Functional Foods

(2+0) 2 ECTS: 4

Definition of functional food and nutritional components, classification of functional food components, legal regulations about functional foods and place of functional foods in the market.

NUT360 – Sports Health and Nutrition

(2+0) 2 ECTS: 4

The importance of exercise for healthy life, physical fitness, practices for increasing physical activity for children and adults, exercise-health-nutrition relationship, exercise-disease relationship, athlete's energy and macro nutrition items, athlete's micro nutrition items, pre / postnatal nutritional properties, prevention of fluid consumption, ergogenic aid, body composition and weight control.

NUT362 – Micronutrient Food and Drug Interactions

(2+0) 2 ECTS: 4

Mechanisms of interaction of some drugs with nutrients, bioactive components in nutrients, nutrients that accelerate or slow the activity of the drug, and adverse effects. Effect of drug treatment on nutritional status; Interactions between drugs and carbohydrates, proteins, lipids, vitamins and minerals.

NUT364 – Diabetes and Medical Nutrition Treatment

(2+0) 2 AKTS: 4

Definition, classification and diagnostic methods of diabetes, pathogenesis and complications; Nutritional interactions with medication, insulin and exercise.

FHS121 – Occupational Health and Safety

(2+0) 2 AKTS: 3

Occupational health and historical development of safety, occupational health and purpose and importance of safety, occupational health and safety concepts in the area, overview of the occupational health and safety turkey, work accidents, occupational diseases, to be taken against the work accidents and occupational diseases precautions, accidents at work and costs arising from occupational diseases.

FHS145 – Research Methods in Health Sciences

(2+0) 2 AKTS: 4

Scientific methods in academic research, introduction to research. Definition of research problem, research design, survey design, sampling methods, data collection methods. Giving the right reference. Research examples of domestic and international libraries.

YEAR FOUR (FALL)

NUT401 – Public Health and Nutrition Training

(0+0) 0 ECTS: 4

Identifying the nutritional status and nutrition habits of the society, raising awareness and education of the individual and the society about adequate and balanced nutrition and health, developing nutrition education programs / materials for special groups.

NUT413 – Nutrition and Dietetics Field Studies I**(2+20) 12 AKTS: 20**

The aim of the field study is to learn the methods to be applied in patient monitoring; To read the patient file, to analyze the information in the file, to be able to follow the patient, to see the role of the manager dietitian in the food service systems, to observe the stages of mass nutrition systems and to discuss the food service systems of the different institutions.

NUT415 – Seminar I**(1+0) 1 AKTS: 2**

Planning and conducting individual researches on current issues related to nutrition and dietetics. It includes the process of presenting a report on the subject chosen by the supervisor under the supervision of the learner with a literature search, purpose and hypothesis, material and method, results, discussion and reference.

NUT407 – Applied Field Research I**(0+2) 2 AKTS: 4**

Planning and conducting individual research on current issues related to nutrition and dietetics. The planning process of the thesis study chosen by the teacher under supervision of the consultant includes the process of presenting the report in the form of literature survey, purpose and hypothesis, material and method, results, discussion and references.

YEAR FOUR (SPRING)**NUT414 – Nutrition and Dietetics Field Studies II****(2+20) 12 AKTS: 20**

The aim of the field study is to learn the methods to be applied in patient monitoring; To read the patient file, to analyze the information in the file, to be able to follow the patient, to see the role of the manager dietitian in the food service systems, to observe the stages of mass nutrition systems and to discuss the food service systems of the different institutions.

NUT416 – Seminar II**(1+0) 1 AKTS: 2**

Planning and conducting individual researches on current issues related to nutrition and dietetics. It includes the process of presenting a report on the subject chosen by the supervisor under the supervision of the learner with a literature search, purpose and hypothesis, material and method, results, discussion and reference.

NUT408 – Applied Field Research II**(0+2) 2 AKTS: 4**

Planning and conducting individual research on current issues related to nutrition, nutrition and dietetics. The planning process of the thesis study chosen by the teacher under supervision of the consultant includes the process of presenting the report in the form of literature survey, purpose and hypothesis, material and method, results, discussion and references.

NUT452 – Health Law and Ethics**(2+0) 2 ECTS: 4**

Within the scope of the course, the elements of the diagnosis and treatment contract, the legal nature, the liabilities of the parties, the irresponsibility contract, the legal liability and the end of the contract are examined. The concepts of health and law, the effects and relations between them, the concept of health law, the place and importance of health law in public law and private law, the analysis and legal characteristics of health issues regulated by special laws, the responsibilities of health institutions and institutions, Legal qualifications of euthanasia and euthanasia concepts, such

as legal and criminal responsibilities, powers and responsibilities, legal qualities, family planning, blood transfusion, organ transplantation, medical evacuation.

NUT454 – Nutrition Information Systems

(2+0) 2 ECTS: 4

Computer applications related to nutrition in the world and Turkey, statistical package programs (SPSS etc.) for interpretation of research data, table making, interpretation and presentation techniques (effective use of Microsoft Office) for research data and case evaluation, percentile for growth and development evaluation And Z score analysis programs (WHO-Antro), programs for energy and nutrient consumption analysis (national international, USDA, BEBIS, etc.).