



Ajloun National University

جامعة عجلون الوطنية

## Faculty of Agriculture

### Department of Human Nutrition and Dietetics

**Study Plan for the Bachelor's Degree in  
Human Nutrition and Dietetics  
Academic year 2023/2024**



Ajloun National University

جامعة عجلون الوطنية

## Vision

The Department of Human Nutrition and Dietetics aims to prepare qualified and distinguished graduates who can meet today's challenges and work at national, regional, and international levels in the fields of nutrition and therapeutic nutrition.

## Mission

To prepare qualified human resources to conduct scientific research, provide university education, spread targeted culture, and provide high-quality professional services in the fields of human nutrition.

## Goals

1. To provide society with a sufficient number of qualified nutritionists with the necessary knowledge and expertise in the field of therapeutic nutrition based on scientific principles.
2. To conduct research projects to assess the nutritional status of individuals and communities to identify and address nutritional problems.
3. To raise awareness of all nutritional topics such as healthy nutrition, therapeutic nutrition, and the nutritional benefits for the human body.
4. To organize various activities and seminars related to food, therapeutic nutrition, and diets; in order to serve the local community using all available means.



Ajloun National University

جامعة عجلون الوطنية

## Learning Outcomes

### Knowledge

Demonstrate a deep understanding of the basis of nutritional science and the nutrient composition of food, discover the links between diets, diseases, health, and the social/ethical factors which impinge on diet and health.

Interpret the principles of cellular metabolic processes, the structure and function of the various physiological systems, and the principles of biological chemistry.

Assess, analyses, and evaluate how to use and apply scientific research information from a variety of sources in nutrition, food, lifestyle, and health aspects through working with others, communication, self-management, problem-solving, and reflecting on the various components of research.

Discuss how to locate, interpret, evaluate, and communicate with individuals and groups, and use literature to make ethical, evidence-based practice decisions using both oral and written means for continuous quality improvement.

### Skills

Utilize and apply the basic research methods and data processing, apply computer software, and employ these methods to analyses data obtained from a wide variety of sources and situations in order to generate new knowledge and skills in the nutritional field.

Assess, analyses, and critically evaluate diet, food, nutrient intake, and the consumption of food constituents in individuals and groups.

Adopt skills needed for enhancing employability, responsibility, and decision-making in complex and unpredictable contexts, the ability to learn, and the skills needed to undertake further appropriate training of a professional or equivalent nature

### Competencies

Communicate effectively with groups and individuals to promote the benefits of a balanced diet throughout the lifespan and demonstrate the ability to use scientific laboratory skills.

Demonstrate consistent professional behavior in accordance with the legal and ethical boundaries of the dietetic profession by applying social justice with respect for individuals' cultures and beliefs

Evaluate knowledge of diet and health, communicate, comment on dietary or health information from both scientific sources which are available to the public, and formulate suggestions with being aware of the ethical and social issues



Ajloun National University

جامعة عجلون الوطنية

## Contents of the Study Plan

The study plan for the bachelor's degree in human nutrition and Dietetics of (140) credit hours distributed as follows:

Certified On Campus learning (1+1, An hour and a half of on campus learning + one half hour of campus learning).

Certified Electronic (1+1, An hour and a half synchronous Electronic + campus learning).

Certified Blended (1+1, An hour and a half synchronous Blended + campus learning).

Number	Type of Requirement	Credit Hours	percentage%
First	University Requirements	27	19.3 %
Second	Faculty Requirements	21	15.00 %
Third	Compulsory Requirements	80	57.1 %
Fourth	Elective Requirements	09	06.4%
Fifth	Free Elective Requirement	03	02.1%
Total		140	100%

## University Coding System

Faculty Code    Department Code    (Level Year)    Knowledge Area    Course sequence

9

2

0 Remedial

1 First

2 Second

3 Third

4 Fourth





Ajloun National University

جامعة عجلون الوطنية

## Knowledge Area

Knowledge Number	Knowledge Area	Number of Credit Hours
1	<b>Human Nutrition: Fundamentals of Nutrition Science , Human Nutrition and metabolism, nutrition through life cycles, assessment of nutritional status, nutrition of athletes.</b>	14
2	<b>Food science: fundamentals of food science, chemistry and food analysis, food preparation, management of nutrition institutions</b>	12
3	<b>Microbiology and food hygiene: food health and safety, Food Microbiology, Food Quality Control and management.</b>	9
4	<b>Therapeutic nutrition: meal planning, clinical therapeutic nutrition (1), clinical therapeutic nutrition (2), clinical nutrition for Children, summer training, weight control and management, graduation project in human nutrition and dietetics.</b>	26
5	<b>Nutrition in health situations: nutrition education and guidance, community nutrition</b>	6
6	<b>Organic Chemistry, Biochemistry, Physiology, biostatistics.</b>	13



Ajloun National University

جامعة عجلون الوطنية

First: University Requirements (27) Credit Hours

A. University Compulsory Requirement (12) Credit Hours

Course code	Course Name	Credit Hour	Prerequisite	Learning Type		
				Electronic	Blended	On Campus
704118	Arabic Language Skills (1)	2	704099		√	
704119	National Education	2	-		√	
704116	Life Skills	1	-		√	
704107	Entrepreneurship and Innovation	1	-		√	
704109	Leadership and Social Responsibility	1	-		√	
704200	Military Sciences	3	-			√
704117	English Language Skills (1)	2	714099	√		

B. University Elective Requirements (15) Credit Hours

Course code	Course Name	Credit Hour	Prerequisite	Learning Type		
				Electronic	Blended	On Campus
201101	The Law in our Lives	3			√	
202132	Human Rights	3			√	
401100	Principles of Administration	3			√	
701140	Arab Library and Lexicography	3	-	√		
704103	International and Arab Contemporary Issues	3				√
704104	Islamic Culture	3	-	√		
704108	Integrity and Transparency	3			√	
704110	Digital Culture	3			√	
704112	Arabic Language Skills (2)	3	704118		√	
704113	Art of Rhetoric and Dialogue	3				√
704115	Development and Family Planning in Islam	3			√	
704141	History of Jerusalem	3			√	
704151	Computer Skills (1)	3	724099		√	
704152	Computer Skills (2)	3	704151		√	
704163	Foreign Language other than English	3			√	
704172	Sports and Health	3				√



Ajloun National University

جامعة عجلون الوطنية

Second: Faculty Requirements (21) Credit Hours

Course code	Course Name	Credit Hour	Prerequisite	Learning Type		
				Electronic	Blended	On Campus
901135	Principles Of Agricultural Economics	3	-			√
901161	Principles of Plant Production	3	901162		√	
901165	Principles of Animal Production	3	901162			√
502108	General Chemistry	3	-		√	
502109	General Chemistry (Lab)	1				√
901162	Principles of Biology	3	-		√	
902168	Principles of Biology (Lab)	1	901162			√
901113	Principles of Agricultural Extension	3			√	
902128	Medical Terminology	1	-	√		



Ajloun National University

جامعة عجلون الوطنية

Third: Department Compulsory Requirements (80) Credit Hours

Course code	Course Name	Credit Hour	Prerequisite	Learning Type		
				Electronic	Blended	On Campus
902111	Biostatistics	3	-			√
902234	Food Microbiology	2	902122			√
902235	Food Microbiology (Lab)	1	902234			√
902126	Organic Chemistry	3	502108		√	
902122	Principles of Food Science	3	502108	√		
902124	Principles of Nutrition	3	502108+ 901162		√	
902212	Physiology	3	901165		√	
902216	Human Nutrition and Metabolism	3	902213		√	
902241	Meal Planning and Dietetics	2	902124		√	
902242	Meal Planning and Dietetics (Lab)	1	902241			√
902213	Biochemistry	3	902126	√		
902214	Biochemistry (Lab)	1	902213			√
902451	Community Nutrition	2	902341 + 902344		√	
902452	Community Nutrition Lab	1	902451			√
902314	Nutrition Through the Life Cycle	3	902343		√	
902331	Food Safety and Hygiene	2	902234		√	
902332	Food Safety and Hygiene (Lab)	1	902331			√
902454	Nutrition Education and Counseling	3	902341 + 902340		√	
902434	Food Service Management in Institutions	2	902124			√
902435	Food Service Management in Institutions (Lab)	1	902434			√
902321	Food Chemistry & Analysis	2	902122			√
902322	Food Chemistry & Analysis (Lab)	1	902321			√
902311	Nutritional Status Assessment	2	902216			√
902312	Nutritional Status Assessment (Lab)	1	902311			√
902341	Medical Nutrition Therapy 1	3	902241+ 902212+ 902216		√	
902342	Medical Nutrition Therapy 1 (Lab)	1	902341			√





Ajloun National University

جامعة عجلون الوطنية

902441	Pediatric Clinical Nutrition	2	902312+ 902314		√	
902442	Pediatric Clinical Nutrition (Lab)	1	902441			√
902344	Medical Nutrition Therapy 2	3	902241+ 902212+ 902216	√		
902345	Medical Nutrition Therapy 2 (Lab)	1	902340			√
902227	Food preparation	2	902122		√	
902228	Food preparation (Lab)	1	902227			√
902610	Summer Training	6	902341+ 902344+ 902311 and After finish 90hr			√
902444	Weight control & management	2	902341+ 902311			√
902445	Weight control & management (Lab)	1	902444			√
902316	Sports Nutrition	2	902241 + 902212+ 902216		√	
902431	Food Quality control & management	2	902321		√	
902432	Food Quality control & management (Lab)	1	902431			√
902490	Graduation Project	3	902111		√	



Ajloun National University

جامعة عجلون الوطنية

### A. Department Elective Requirements (9) Credit Hours

Course code	Course Name	Credit Hour	Prerequisite	Learning Type		
				Electronic	Blended	On Campus
902503	Natural nutrients and herbs	3	902340+ 902343		√	
902506	Nutrition Immunity	3	902312+ 902216			√
901153	Principle of Agriculture statistics	3	-		√	
902510	Vitamins and Minerals	3	902216		√	
902508	Contemporary Issues in Nutrition and Dietetics	3	902216+ 902111		√	
902520	Food Technology	3	902227			√
902523	Malnutrition	3	902216+ 902111	√		
902524	Healthy aging	3	902216+ 902111			√
902522	Dairy Products Technology	3	902122			√
902518	Functional Food	3	902216		√	
902517	Special topics in human nutrition and diets	3	-		√	
902511	Endocrine system	3	902216			√
902564	Food security	3	902451		√	

### Fifth: Free Elective Requirements (03) Credit Hours

The students study a free course offered by the university with (3) credit hours



Ajloun National University

جامعة عجلون الوطنية

## Study Plan Guide for the Master's Degree in Human Nutrition and Dietetics

### First Year

#### First Semester

Course Number	Course Name	Credit Hours	Prerequisite
901162	Principles of Biology	3	-
902168	Principles of Biology (Lab)	1	-
502108	General Chemistry	3	-
502109	General Chemistry (Lab)	1	-
901153	Principles Of Agricultural Economics	3	-
704118	Arabic Language Skills (1)	2	-
704116	Life Skills	1	-
-	University Elective Req (1)	3	-
Total			17

#### Second Semester

Course Number	Course Name	Credit Hours	Prerequisite
902122	Principles of Food Science	3	-
902124	Principles of Nutrition	3	-
902128	Medical Terminology	1	-
901165	Principles of Animal Production	3	-
902126	Organic Chemistry	3	-
-	University Elective Req (2)	3	-
Total			16



Ajloun National University

جامعة عجلون الوطنية

## Second Year

### First Semester

Course Number	Course Name	Credit Hours	Prerequisite
901161	Principles of plant production	3	-
902241	Meal Planning and Dietetics	2	-
902242	Meal Planning and Dietetics (Lab)	1	-
902111	Biostatistics	3	-
902213	Biochemistry	3	-
902214	Biochemistry (Lab)	1	-
902227	Food preparation	2	-
902228	Food preparation (Lab)	1	-
704117	English Language Skills (1)	2	-
Total			18

### Second Semester

Course Number	Course Name	Credit Hours	Prerequisite
901167	Principles of agricultural extension	3	-
902212	Physiology	3	-
902234	Food Microbiology	2	-
902235	Food Microbiology (Lab)	1	-
902216	Human Nutrition and Metabolism	3	-
-	Elective University Requirements (3)	3	-
-	Elective University Requirements (4)	3	-
Total			18





Ajloun National University

جامعة عجلون الوطنية

## Third Year

### First Semester

Course Number	Course Name	Credit Hours	Prerequisite
902341	Medical Nutrition Therapy 1	3	-
902342	Medical Nutrition Therapy 1 (Lab)	1	-
902311	Nutritional Status Assessment	2	-
902312	Nutritional Status Assessment (Lab)	1	-
704119	National Education	2	-
902331	Food Safety and Hygiene	2	-
902332	Food Safety and Hygiene (Lab)	1	-
902321	Food Chemistry And Analysis	2	-
902322	Food Chemistry And Analysis (Lab)	1	-
Total		15	

### Second Semester

Course Number	Course Name	Credit Hours	Prerequisite
902344	Medical Nutrition Therapy 2	3	-
902345	Medical Nutrition Therapy 2 (Lab)	1	-
704200	Military Sciences	3	-
902314	Nutrition Through the Life Cycle	3	-
902316	Sports Nutrition	2	-
704109	Leadership and Social Responsibility	1	-
704107	Entrepreneurship and Innovation	1	-
	Compulsory Elective Faculty Requirements (1)	3	-
Total		17	



Ajloun National University

جامعة عجلون الوطنية

## Fourth Year

### First Semester

Course Number	Course Name	Credit Hours	Prerequisite
902431	Food Quality control & management	2	-
902432	Food Quality control & management (Lab)	1	-
902441	Pediatric Clinical Nutrition	2	-
902442	Pediatric Clinical Nutrition (Lab)	1	-
902451	Community Nutrition	2	-
902452	Community Nutrition Lab	1	-
	Compulsory Elective Faculty Requirements (2)	3	-
	Free Elective Requirement	3	-
Total			15

### Second Semester

Course Number	Course Name	Credit Hours	Prerequisite
902454	Nutrition Education and Counseling	3	-
902434	Food Service Management in Institutions	2	-
902435	Food Service Management in Institutions (Lab)	1	-
902490	Graduation Project	3	-
902444	Weight control & management	2	-
902445	Weight control & management (Lab)	1	-
	Compulsory Elective Faculty Requirements (3)	3	-
	Elective University Requirements (5)	3	-
Total			18



Ajloun National University

جامعة عجلون الوطنية

## Courses Description

### Faculty Compulsory Requirements ( 21 Credit Hours)

**Course Number** : 901135  
**Course Title** : The agricultural economy  
**Credit Hours** : 3  
**Prerequisites** : -

**Agriculture economy include the relationship of inputs to production and the relationship of inputs to outputs. Study of production functions, production laws, and cost studies. This course also addresses the position of agriculture in the economic structure and the characteristics that characterize work in agriculture, then addresses the various branches of the agricultural economy, while shedding light on the agricultural policies followed in some Arab countries.**

**Course Number** : 901161  
**Course Title** : Principles of plant production  
**Credit Hours** : 3  
**Prerequisites** : -

**The course includes the foundations of choosing and preparing the orchard site, selecting appropriate roots and varieties, knowing the growth patterns and fertility of fruit trees and their morphological and anatomical characteristics to choose the best practices in planting, fertilizing, irrigation and pruning.**

**Course Number** : 901165  
**Course Title** : Principles of animal production  
**Credit Hours** : 3  
**Prerequisites** : -

**The course covers the general foundations of animal production, farm animal products, meat, milk, eggs, types of cows, sheep, and poultry and their breeds, physiological processes related to reproduction, milk production, digestion in farm animals, adaptation of animals to environmental conditions, and methods of feeding and caring for farm animals.**



Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 502108  
**Course Title** : **General Chemistry**  
**Credit Hours** : 3  
**Prerequisites** : -

**This course includes the basic theoretical rules related to scientific methods of measurement, chemical calculations, the periodic table, electronic structure, chemical bonds, thermochemistry, chemical reactions, the gaseous state, states of matter, properties of solutions, acids and bases, and the equilibrium of acids and bases in solutions Watercolour.**

**Course Number** : 502108  
**Course Title** : **General Chemistry (Lab)**  
**Credit Hours** : 1  
**Prerequisites** : 502108

**This course deals with how to perform chemical calculations and measurements, study chemical and physical properties, elementary formulas, calculate moles of water in compounds containing water, titration, and study the measurement of antacids.**

**Course Number** : 901162  
**Course Title** : **Principles of Biology**  
**Credit Hours** : 3  
**Prerequisites** : -

**This course included studying some basic concepts of organic and inorganic chemistry. Study of the cell from the structural and functional aspects, energy transformations, plant and animal tissues, the functional aspect of living organisms, which includes the digestive, respiratory, and nervous systems and sensory receptors.**





Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 901268  
**Course Title** : Principles biology (Lab)  
**Credit Hours** : 1  
**Prerequisites** : -

This practical course covers most of the concepts and topics that were presented in the theoretical part of the general biology course for agricultural students. This course is considered an introduction to food industry technology and its development from the harvesting stage to the stage of its arrival to the consumer, through the manufacturing and packaging processes of foodstuffs. This course includes studying the characteristics of primary and fresh foodstuffs. The focus of this course is on preventing the causes of food spoilage from a biological, microscopic, physical and chemical perspective. It includes a general description of the theoretical foundations of the process units used in the food industries, including a detail of the devices used in practical industrial application, and ways to save energy and manpower and improve product quality. Finally, the impact of process units used in food industries on the sensory and nutritional properties of products, and the various fields in food manufacturing, will be presented.

**Course Number** : 901113  
**Course Title** : Principles of agricultural extension  
**Credit Hours** : 3  
**Prerequisites** : 601101

It aims to introduce the role of agricultural extension workers, study the origins of the growing agricultural campaign, realize its goals and philosophy that participate in its effectiveness, and provide the student with information that will help him prepare the following programs, their dates, the history of the liberalization of the agricultural liberalization service, its goals and functions, its current status, and ways to increase its effectiveness.

**Course Number** : 902128  
**Course Title** : Medical Terminology  
**Credit Hours** : 1  
**Prerequisites** : -

This course aims to introduce students to the common terms in the medical and health field, the basic roots of the terms and the added syllables at the beginning and end of words to give new meanings to the terms, including the terms used in the diagnosis of conditions, health and disease.



Ajloun National University

جامعة عجلون الوطنية

## Compulsory Department Requirements ( 80 Credit Hours):

**Course Number** : 902111  
**Course Title** : **Biostatistics**  
**Credit Hours** : 3  
**Prerequisites** : 311202

Introducing students to the basic concepts of biostatistics, its objectives and functions. Identify the different statistical tests and how to apply them appropriately. Identify some simple rules and probabilities, the random variable, the binomial and Poisson distribution, the normal distribution and its applications, measures of centrality and measures of dispersion, statistical hypotheses and theories, and standard error. Representation of data through tables and graphs.

**Course Number** : 902234  
**Course Title** : **Food Microbiology**  
**Credit Hours** : 3  
**Prerequisites** : 902122

This course aims to identify the structural and physiological characteristics of important microorganisms in food and distinguish between beneficial and harmful organisms. It also describes foodborne diseases, food spoilage, their etiology and the conditions in which they grow. It describes the various methods of diagnosing and treating diseases related to food spoilage.

**Course Number** : 902235  
**Course Title** : **Food Microbiology (Lab)**  
**Credit Hours** : 1  
**Prerequisites** : 902234

This course aims to give students the basic skills to identify the different organisms that cause food spoilage. The skills will also include sterilization technology, microscopy, differential media and tests used to detect organisms that cause food contamination.



Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902126  
**Course Title** : **Organic Chemistry**  
**Credit Hours** : 3  
**Prerequisites** : 502108

**This course deals with the study of important classes of carbon compounds including those in the Health Sciences. The course focuses on their three-dimensional structures, the mechanisms of their characteristic reactions, their structure, methods of identification, and their role in modern science and technology.**

**Course Number** : 902122  
**Course Title** : **Principles of Food Science**  
**Credit Hours** : 3  
**Prerequisites** : 502108

**This course deals with the introduction to food science. Nutrients: their properties, sources and importance, introduction to various food preservation methods. Introduction to microbiology and its importance in food science and factors of food spoilage and spoilage. Food quality, recent developments in food science and the nutritional situation in Jordan and the world.**

**Course Number** : 902124  
**Course Title** : **Principles of Nutrition Science**  
**Credit Hours** : 3  
**Prerequisites** : 502108+ 901162

**This course deals with the basic concepts, sources, and functions of food elements, including macronutrients: water, protein, carbohydrates, fats. And micronutrients: vitamins and minerals. As well as studying energy and methods of measuring it in food and the physiological caloric value of foods, as well as the various types of energy and energy necessary for effort and activity. The process of digestion, absorption, transportation, utilization and storage of nutrients in humans and the interaction between diet and health. It also provides an overview of nutrition and Dietetics as a profession, including career opportunities.**





Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902212  
**Course Title** : **Physiology**  
**Credit Hours** : 3  
**Prerequisites** : 311220

**Introduction to the basic principles of data communication and computer networks, the fundamental principles of designing and operating computer networks, network reference models, interfaces and services, protocols, communication services, synchronization, flow control, error control, routing algorithms, network layer, transport layer, application layer protocols, description of the layered architecture of typical networks, and identification of different types of complexity in networks.**

**Course Number** : 902216  
**Course Title** : **Human Nutrition and Metabolism**  
**Credit Hours** : 3  
**Prerequisites** : 902213

**This course aims to identify the methods of energy production in the body and the metabolic processes of various nutrients, which include proteins, carbohydrates, fats, vitamins, minerals and derivatives of these substances. As well as identifying the health problems resulting from the disruption of the metabolic processes of these nutrients and how to deal with these cases from the nutritional point of view.**

**Course Number** : 902241  
**Course Title** : **Meal Planning (theoretical )**  
**Credit Hours** : 3  
**Prerequisites** : 902124

**The course introduces the principles of food and nutrition to plan healthy and balanced meals that meet the needs of individuals and groups based on the four basic food groups and the system of dietary alternatives. He is also interested in studying the nutritional and administrative aspects related to meals. The course covers other topics such as the amount of food purchase, budgeting, preparation and service; analysis of food costs, kitchen, catering, equipment selection and care.**





Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902242  
**Course Title** : Meal and Diet Planning (Lab)  
**Credit Hours** : 1  
**Prerequisites** : 902241

**This course aims to teach the student how to prepare and plan meals for various health diseases based on theoretical nutritional knowledge by determining the body's needs for energy and nutrients.**

**Course Number** : 902213  
**Course Title** : Biochemistry  
**Credit Hours** : 3  
**Prerequisites** : 902126

**This course deals with the study of diverse structures and interactions in living cells that provide the necessary energy for vital processes and activities and the role of organic compounds such as carbohydrates, protein, fats and nucleic acids. It also touches on the role of enzymes in various metabolic processes with a description of the methods of inhibiting these enzymes and the auxiliary factors of their activities.**

**Course Number** : 902214  
**Course Title** : Biochemistry(Lab)  
**Credit Hours** : 1  
**Prerequisites** : 902213

**The practical side of this course is concerned with training students on experiments related to the foundations and principles of Biochemistry. Checking the concentrations of carbohydrates, proteins and nucleic acids in addition to measuring the speed and properties of vital reactions.**

**Course Number** : 902451  
**Course Title** : Community Nutrition  
**Credit Hours** : 2  
**Prerequisites** : 902340+902341

**The course aims to study the relationship of nutrition to the health of society by introducing students to the basic knowledge and skills necessary to assess the relationship between diet, nutrition and chronic diseases in society. The course also deals with how to interpret the results of epidemiological studies on the methods of conducting nutritional surveys, preparing nutritional questionnaires and statistical analysis.**



Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902452  
**Course Title** : community nutrition(practical)  
**Credit Hours** : 3  
**Prerequisites** : 902451

**This course is concerned with practical training of students in the field of community nutrition. The practice will include the application of the nutritional care process in the community. The student selects a nutritional problem prevalent in the community and develops a case study presentation using evidence-based guidelines, nutrition assessment, diagnosis, intervention, monitoring and evaluation. For a certain age category of society.**

**Course Number** : 902314  
**Course Title** : Nutrition Through the Life Cycles  
**Credit Hours** : 2  
**Prerequisites** : 902343

**This course deals with the study of the impact of nutrition on human growth and development from childhood to old age, including the physiological foundations of nutritional needs and the relationship of dietary habits with nutrition and what may cause chronic diseases.**

**Course Number** : 902331  
**Course Title** : Food Safety and Hygiene  
**Credit Hours** : 2  
**Prerequisites** : 902234

**The course included identifying the importance of food health and safety , how food spoils and ways to preserve it from corruption , also identifying the requirements for food health and safety in places of production, storage and serving, as well as identifying diseases transmitted to humans by contaminated food, in addition to identifying methods of protecting food from pollution and corruption.**

**Course Number** : 902332  
**Course Title** : Food Safety and Hygiene (LAB)  
**Credit Hours** : 1  
**Prerequisites** : 902331

**The practical aspect of this course deals with the application of Critical Control Point Systems for risk analysis (HACCP). By defining the basic principles of food hygiene applied**



Ajloun National University

جامعة عجلون الوطنية

at all stages of the food chain (including the stages of primary production up to the stage of food reaching the final consumer), to achieve the goal of ensuring food safe and suitable for human consumption.

**Course Number** : 902454  
**Course Title** : Nutrition education and counseling  
**Credit Hours** : 3  
**Prerequisites** : 902340+902341

This course aims to provide students with important knowledge and skills to practice health education, to give students an overview of the historical development of the concept of nutritional counseling and a course in the development of the nutritional process, the course deals with a wide range of nutritional counseling and provides a description of various ways and means to develop nutritional counseling programs.

**Course Number** : 902434  
**Course Title** : Food Service Management in Institutions  
**Credit Hours** : 3  
**Prerequisites** : 902124

This course deals with the types of food services in healthcare and other institutional environments and their organization, Kitchen Planning and equipment specifications; food procurement, receipt, storage and issuance; menu planning, cost and quality control. Food safety and sanitation in enterprises.

**Course Number** : 902435  
**Course Title** : Food Service Management in Institutions (Lab)  
**Credit Hours** : 3  
**Prerequisites** : 902434Concurrent

This course aims at a practical training in one of the food production and manufacturing institutions, where the student trains on controlling the quality of the institution's products, ensuring it, its quality systems, food safety, consumer relations and legislation related to its products.





Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902321  
**Course Title** : Food Chemistry & Analysis  
**Credit Hours** : 2  
**Prerequisites** : 902122

**This course aims to introduce the student to the importance of food analysis, sampling methods and approximate analysis of food: estimation of moisture, ash, protein, carbohydrates, fats, fiber, vitamins, minerals, salts, additives and pollutants. It also introduces the student to the functional properties of food in addition to chemical reactions related to food. The article also deals with understanding the physical and chemical changes that occur in foodstuffs.**

**Course Number** : 902322  
**Course Title** : Food Chemistry & Analysis (Lab)  
**Credit Hours** : 1  
**Prerequisites** : 902321 Concurrent

**This course deals with the practical application of automated methods used in the analysis of food to determine its various chemical components of sugars, fats, proteins, etc., and various systems in determining the shelf life of food.**

**Course Number** : 902311  
**Course Title** : Nutritional Status Assessment  
**Credit Hours** : 2  
**Prerequisites** : 902216

**This course includes the methods used in assessing the nutritional status such as physical measurements, laboratory and clinical examinations and how to interpret the results of these methods in order to assess the nutritional status of individuals and communities.**





Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902312  
**Course Title** : Nutritional Status Assessment (Lab)  
**Credit Hours** : 1  
**Prerequisites** : 902311Concurrent

**This course aims to identify practical methods in assessing nutritional status such as body measurements, laboratory and clinical tests, and using the results in the nutritional assessment of individuals and communities**

**Course Number** : 902341  
**Course Title** : Medical Nutrition Therapy 1  
**Credit Hours** : 3  
**Prerequisites** : 902241+ 902212+ 902216

**This course deals with the study of the most common diseases in society such as obesity, diabetes, cardiovascular diseases, hypertension, diseases of the gastrointestinal tract, liver, gallbladder and kidneys. Distinguish the causes, signs, diagnosis for each pathological condition and the appropriate therapeutic foods for each case.**

**Course Number** : 902342  
**Course Title** : Medical Nutrition Therapy 1(lab)  
**Credit Hours** : 3  
**Prerequisites** : 902341Concurrent

**The practical side of this course aims to study the cases of the most common diseases in society such as obesity, diabetes, cardiovascular diseases, hypertension, diseases of the gastrointestinal tract, liver and gallbladder, nutritional requirements for each case and proper food planning.**

**Course Number** : 902441  
**Course Title** : Pediatric Clinical Nutrition  
**Credit Hours** : 3  
**Prerequisites** : 902312+ 902314

**This course deals with the study of diseases that affect children in particular, which need special nutritional attention and how to deal with pathological conditions in order to reach their own diet.**



Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902443  
**Course Title** : **Pediatric Clinical Nutrition (Lab)**  
**Credit Hours** : 1  
**Prerequisites** : 902441

**The practical part of this material deals with a case study of diseases that affect children in particular, which need special nutritional attention and how to deal with pathological conditions with the aim of reaching their own diet.**

**Course Number** : 902344  
**Course Title** : **Medical Nutrition Therapy 2**  
**Credit Hours** : 3  
**Prerequisites** : 902241+ 902212 +902216

**This course aims to identify the role of nutrition in the prevention and treatment of diseases and includes the study of diseases such as anemia, cancer, immune deficiency, neurological, pulmonary and bone diseases. Distinguish the causes, signs, diagnosis for each case and appropriate therapeutic foods for each case.**

**Course Number** : 902345  
**Course Title** : **Medical Nutrition Therapy 2 (Lab)**  
**Credit Hours** : 1  
**Prerequisites** : 902340

**The practical side of this course aims to study the cases of anemia, cancer, immunodeficiency, neurological, pulmonary and bone diseases, methods of treating them with food, nutritional requirements for each case and proper food planning.**

**Course Number** : 902227  
**Course Title** : **Food preparation**  
**Credit Hours** : 2  
**Prerequisites** : 902122

**This course deals with the basic healthy methods in the processes of cooking and preparing foods to preserve the nutrients of food in addition to the application of standard recipes in the preparation of diets, the material also touches on the methods of preparing diets for patients. It also touches on how to receive and store raw food, as well as methods of preparing fruits, vegetables, meat, poultry and other food.**



Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902228  
**Course Title** : **Food preparation lab**  
**Credit Hours** : 1  
**Prerequisites** : 902227Concurrent

**This course deals with the practical application of cooking and food preparation processes to preserve the nutrients of food in addition to the application of standard recipes in the preparation of diets, the material also touches on the methods of preparing diets for patients. It also touches on how to receive and store raw food, as well as methods of preparing fruits, vegetables, meat, poultry and other foodstuffs.**

**Course Number** : 902610  
**Course Title** : **Summer Training**  
**Credit Hours** : 6  
**Prerequisites** : 902341+902344+902311 After finish 90

**The student will spend at least 8 weeks in one of the hospitals, health centers, orphanages and nursing homes specializing in Clinical Nutrition and diets to apply what he has learned in the field of food services and medical therapeutic nutrition.**

**Course Number** : 902445  
**Course Title** : **Weight control & management (Lab)**  
**Credit Hours** : 1  
**Prerequisites** : 902341+902344+902311 After finish 90

**This course covers the practical application of topics related to various aspects and factors related to obesity, methods of weight control and maintaining a healthy weight, and the relationship between weight status and the Prevention of chronic diseases. The theories of nutrition and exercise, traditional and new, in addition to the current diet and exercise trends, will also be discussed, and the student will gain the skill of helping to achieve an ideal and healthy weight.**





Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902316  
**Course Title** : **Sport Nutrition**  
**Credit Hours** : 2  
**Prerequisites** : 902241+902212+902216

**This course deals with the study of the importance of nutrition for sports and health. It also touches on the importance of the basic elements of carbohydrates, proteins, and ways to absorb them inside the body to extract energy and the functions of mineral salts, vitamins, water and natural fibers to maintain health. As well as studying how to calculate the energy and special needs of an athlete from proteins, carbohydrates, fats, minerals and vitamins to increase the effectiveness of his performance.**

**Course Number** : 902431  
**Course Title** : **Food Quality Control & Management**  
**Credit Hours** : 2  
**Prerequisites** : 902321

**This article deals with the basic principles of food safety, health practices and biological, chemical and physical hazards that may be transmitted through food. It also deals with topics related to food quality management, such as quality policy, its objectives and elements, as well as the principles, tools and methods of comprehensive quality management. The course also exposes the various methods of food preservation, storage and prolongation of its shelf life and discusses some quality and safety systems that are used to ensure food safety, such as the hazard analysis system and critical control points (HACCP) in food production and preparation facilities.**

**Course Number** : 902432  
**Course Title** : **Food Quality control & management LAB**  
**Credit Hours** : 1  
**Prerequisites** : 902431

**This course deals with sampling, drawing plates and statistical control of food quality, and also includes case studies to solve problems in the field of food quality control. This course also covers practical applications on topics related to food quality management, such as quality policy, its objectives and elements, as well as the principles of Total Quality, its tools and methods. Quality control systems and their audits are also covered.**





Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902449  
**Course Title** : **Graduation Project**  
**Credit Hours** : 3  
**Prerequisites** : 902111

The graduation project aims to introduce students to the real application in this field by selecting students in consultation with the faculty supervisor, a problem related to Applied Nutrition, and then they write a small research proposal on how the student can solve this problem in a scientific manner to be applied through a research project.

### Elective Department Requirements ( 9Credit Hours):

**Course Number** : 902503  
**Course Title** : **Natural Nutrients and Herbs**  
**Credit Hours** : 3  
**Prerequisites** : 902340+ 902343

This course covers various aspects of the life and ecology of beneficial and harmful weeds, their different categories, the overlap of weeds (competition and inhibition), and economic importance. It also gives an overview of the most famous natural medicinal herbs in terms of their importance in supplying the body with vitamins, minerals and energy and their role in protecting the cell from damage.

**Course Number** : 902506  
**Course Title** : **Nutrition Immunity**  
**Credit Hours** : 3  
**Prerequisites** : 902340+902341

The course introduces the principles of immunology including: development of the immune system, autoimmunity, antibody reactions, T cell receptors (heredity, structure, selection), activation of T cells and functions of effectors, cytokines, phagocyte function, immune responses of organisms and infectious tumors, autoimmune diseases and allergic and immunodeficiency diseases.



Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902510  
**Course Title** : Vitamins and Minerals  
**Credit Hours** : 3  
**Prerequisites** : 902214

The study of the needs of vitamins and minerals and their role in the vital functions of the human body, metabolism, diseases related to deficiency and toxicity and their sources of. As well as focusing on the physical requirements of this elements in accordance with the international associations that determine the requirements (DRI, WHO).

**Course Number** : 902508  
**Course Title** : Contemporary Issues in Nutrition and Dietetics  
**Credit Hours** : 3  
**Prerequisites** : 902214+902111

This course deals with the importance of nutrition in the prevention and treatment of some food-related diseases and the control of their complications such as diabetes, obesity, heart and circulatory diseases, gout, cancer and wheat allergy. The relationship of nutrition and simultaneous changes in the pattern of food consumption with contemporary chronic diseases epidemiology and Prevention of diseases with a focus on the use of a healthy diet.

**Course Number** : 902520  
**Course Title** : Food Technology  
**Credit Hours** : 3  
**Prerequisites** : 902227

This course deals with the main areas and pillars of food manufacturing, the principles of food preservation from cooling, freezing, drying, canning and the most important stages of food manufacturing, as well as food packaging in terms of its functions, types, selection bases, packaging, storage and transportation requirements. It also studies the properties of quality, methods of measuring it, the validity of food and the changes caused by Microbiology in food.



Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902523  
**Course Title** : **Malnutrition**  
**Credit Hours** : 3  
**Prerequisites** : 902214

**This course is concerned with the study of micronutrient-related malnutrition, which includes micronutrient deficiency (lack of important vitamins and minerals) or micronutrient overabundance; overweight, obesity and diet-related non-communicable diseases such as heart disease, stroke, diabetes mellitus and some cancers. As well as explaining dietary habits, symptoms of malnutrition, causes of malnutrition and its treatment. - Also study the conditions of balanced nutrition.**

**Course Number** : 902524  
**Course Title** : **Healthy Aging**  
**Credit Hours** : 3  
**Prerequisites** : 902214+902211

**This course is interested in learning about the stage of aging and the basic facts about the nature of the stage and the problems of aging such as health, emotional and social problems. Also, the student is introduced to the physiological variables that occur at this stage.**

**Course Number** : 902522  
**Course Title** : **Dairy Product Technology**  
**Credit Hours** : 3  
**Prerequisites** : 902122

**This course deals with the topics of the chemistry of milk organisms in addition to the study of the properties of milk, and the changes occurring to milk during its manufacture, circulation, and storage. This course is also interested in studying the most important common processes used in milk processing, the impact of manufacturing variables on the final product, and the necessary methods for safe production for the consumer.**





Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902518  
**Course Title** : **Functional Foods**  
**Credit Hours** : 3  
**Prerequisites** : 902214

**This course is concerned with the definition of Functional Foods; popularity and uses. Chemistry and components that include prebiotics, probiotics, phytochemicals, herbs, some animal and plant products, some active chemicals such as sterols, polyphenols, energy-generating AIDS and antioxidants; brief description of their production; claims of legislative aspects, associated health risks. The course involves the participation of students by collecting data on selected functional and healthy foods, analyzing the results obtained and presenting them at a seminar.**

**Course Number** : 902517  
**Course Title** : **Special Topics in Human Nutrition and Diets**  
**Credit Hours** : 3  
**Prerequisites** : 902214

**This course deals with an Advanced Study in one of the topics of nutrition and diets that have a general interest, so that modern research and reference publications are used in it. The theme can change every year and depending on what is new. It can include drug nutrient interactions, protein metabolism, nutrition, behavior, nutrition and exercise, and any other advanced topics in this area.**

**Course Number** : 902511  
**Course Title** : **Endocrine System**  
**Credit Hours** : 3  
**Prerequisites** : 902214

**This course deals with the principles of the action of hormones. The functions of each endocrine gland and its relationship with other glands in terms of regulating the work of the gland. It also focuses on endocrine control in maintaining the balance and concentration of extracellular calcium ions, parathyroid hormones, Vitamin D3 and calcitonin. It also deals with the consequences of diabetes and hyperinsulinemia.**





Ajloun National University

جامعة عجلون الوطنية

**Course Number** : 902564  
**Course Title** : Food Security  
**Credit Hours** : 3  
**Prerequisites** : 902214

**This course covers the definition of food security, the basics of agricultural economics related to food security, the food security system and its importance at three levels (individual levels, local level, and national level). Study of food security policies and institutions working in food security locally and internationally, the importance of storage in the decision-making process. Application of economic theories of food production and consumption. Supply and demand, costs and prices, the development of food programs and the food budget, as well as food consumption patterns.**