

B.Sc. in Nutrition & Food Technology Study Plan

■ University Compulsory Courses **16 C.H** Page (64)

■ University Elective Courses **9 C.H** Pages (64 & 65)

■ Faculty Compulsory Courses **21 C.H**

| Line No. | Code | Course | |
|----------|----------|--|---|
| 622040 | PP204 | PRINCIPLES OF AGRICULTURAL ECONOMICS | 3 |
| 622621 | PP262A | EXTENSION AND TRANSFER OF AGRICULTURAL TECHNOLOGY | 3 |
| 901021 | MATH102A | CALCULUS(FOR BIO.SCI.STUDENTS) | 3 |
| 911031 | CHEM103A | GENERAL CHEMISTRY | 3 |
| 921031 | PHY103A | GENERAL PHYSICS | 3 |
| 931030 | BIO103 | GENERAL BIOLOGY | 3 |
| 1731160 | CS116 | SELECTED PROGRAMMING LANGUAGES (FOR NON COMPUTER SCIENCE INFORMATION STUDENTS) | 3 |

■ Department Compulsory Courses **77 C.H**

| Line No. | Code | Course | |
|----------|--------|-------------------------------------|---|
| 612060 | AP206 | PRINCIPLES OF ANIMAL SCIENCE | 3 |
| 613210 | AP321 | ANIMAL PHYSIOLOGY | 3 |
| 613211 | AP321A | ANIMAL PHYSIOLOGY LABORATORY | 0 |
| 622130 | PP213 | INTRODUCTION TO BIostatISTICS | 3 |
| 632510 | NF251 | AGRICULTURAL BIOCHEMISTRY | 3 |
| 632530 | NF253 | PRACTICAL AGRICULTURAL BIOCHEMISTRY | 1 |
| 632750 | NF275 | PRINCIPLES OF FOOD SCIENCE | 3 |
| 632810 | NF281 | PRINCIPLES OF NUTRITION | 3 |
| 632820 | NF282 | MEAL PLANNING | 3 |
| 632821 | NF282 | MEAL PLANNING | 0 |
| 632840 | NF284 | HUMAN NUTRITION | 3 |
| 633730 | NF373 | FOOD CHEMISTRY AND ANALYSIS | 3 |
| 633731 | NF373 | FOOD CHEMISTRY AND ANALYSIS | 0 |
| 633741 | NF374A | PRINCIPLES OF DAIRY SCIENCE | 2 |
| 633750 | NF375 | FOOD TECHNOLOGY | 3 |
| 633751 | NF375A | FOOD TECHNOLOGY(LAB) | 0 |
| 633771 | NF377A | FOOD MICROBIOLOGY | 3 |
| 633772 | NF377B | FOOD MICROBIOLOGY(LAB) | 0 |
| 633811 | NF381A | DIET THERAPY 1 | 3 |
| 633812 | NF381 | DIET THERAPY 1 | 0 |
| 633821 | NF382A | DIET THERAPY 2 | 3 |
| 633822 | NF382 | DIET THERAPY 2 | 0 |
| 634000 | NF400 | SUMMER TRAINING | 6 |
| 634761 | NF476A | FOOD QUALITY CONTROL | 3 |
| 634762 | NF476B | FOOD QUALITY CONTROL(LAB) | 0 |
| 634770 | NF477 | FOOD SAFETY | 3 |
| 634771 | NF477 | AAAAAA | 0 |
| 634793 | NF479C | TECHNOLOGY OF DAIRY PRODUCTS | 3 |

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|--------|----------|------------------------------------|---|
| 634794 | NF479 | TECHNOLOGY OF DAIRY PRODUCTS (LAB) | 0 |
| 634831 | NF483A | COMMUNITY NUTRITION | 3 |
| 634841 | NF484A | NUTRIITION EDUCATION AND EXTENSION | 3 |
| 634910 | NF491 | SEMINAR | 1 |
| 911072 | CHEM107B | GENERAL CHEMISTRY LAB | 1 |
| 912170 | CHEM217 | ORGANIC CHEMISTRY | 3 |
| 912330 | CHEM233 | ANALYTICAL CHEMISTRY | 3 |
| 912340 | CHEM234 | ANALYTICAL CHEMISTRY LAB. | 1 |
| 931070 | BIO107 | GENERAL BIOLOGY (PRACTICAL) | 1 |
| 933311 | BIO331A | GENERAL MICROBIOLOGY | 3 |
| 933322 | BIO332B | GENERAL MICROBIOLOGY (LABORATORY) | 1 |

■ Department Elective Courses **9 C.H**

| Line No. | Code | Course | |
|----------|--------|--|---|
| 614361 | AP436A | MEAT SCIENCE | 3 |
| 614391 | AP439A | ENERGY METABOLISM | 3 |
| 633540 | NF354 | INSTITUTIONAL FOOD SERVICES | 3 |
| 633760 | NF376 | FRUITS AND VEGETABLES PROCESSING | 3 |
| 633761 | NF376A | FRUITS AND VEGETABLES PROCESSING (LAB) | 0 |
| 633780 | NF378 | CEREALS PROCESSING AND PRODUCTS | 3 |
| 633862 | NF386B | ATHELETES NUTRITION | 3 |
| 634751 | NF475A | MEAT TECHNOLOGY | 3 |
| 634781 | NF478A | FOOD PACKAGING | 3 |
| 634860 | NF486 | NUTRITIONAL STATUS EVALUATION | 3 |
| 634880 | NF488 | NUTRITION THROUGH LIFE CYCLE | 3 |
| 634921 | NF492A | SELECTED TOPICS(C) | 1 |
| 634922 | NF492B | SELECTED TOPICS(A) | 3 |
| 634924 | NF492B | SELECTED TOPICS(B) | 2 |
| 643310 | NR331 | RANGE MANAGEMENT | 3 |

TOTAL **132 C.H**

*** For prerequisite & equivalent courses see the Courses' Description.**

B.Sc. in Nutrition and Food Technology

Courses' Description

NF 251 Agricultural Biochemistry (3C, 3L)
Chemistry of biological compounds, their structural and functional roles and their compartmentations. Thermodynamics and kinetics of enzymatic activities and intermediary metabolism. (Prerequisite: BIO 103, CHEM 217)

NF 253 Practical Agricultural Biochemistry (1C, 3L)
Laboratory procedures in identification and separation of biochemical entities and enzymatic reactions. (Prerequisite: NF 251 or simultaneous)

NF 275 Principles of Food Science (3C, 3H)
Principles and methods of preparation and qualities, composition, and uses of food. The use of heat in processing of food. (Prerequisite: BIO 103, CHEM 103,)

NF 281 Principles of Nutrition (3C, 3H)
Food and nutrients; macro- and micro-nutrients, their sources. Food digestion, absorption, metabolism, and function. (Prerequisite: BIO 103, CHEM 103)

NF 28 Meal Planning (3C, 2H, 3L)
Psychological, sociological, and historical aspects of food patterns. The proper approaches to plan and prepare a healthy meal for the family. Nutritional education programs. (Prerequisite: NF 281)

NF 284 Human Nutrition (3C, 3H)
Principles of human nutrition applicable to all ages of human development. Impact of environment, economics, and culture on food and nutrition. (Prerequisite: NF 251 and NF 281)

NF 354 Institutional Food Services (3C, 3H)
Different food preparation facilities and food service establishments such as hotels, restaurants, hospitals, school and college cafeterias. Methods of food preparation. Budgeting, personnel, space, equipment, menus, quality control, table services, and set up in different types of food service systems. Legislation and country laws along with duties and responsibilities of food service systems management. (Prerequisite: NF 281, NF 275)

NF 374 Principles of Dairy Science (2C, 2H)
Milk sources, producing animals and secretion. Milking methods and milk pooling, cooling, transportation, and marketing. Chemical and physical properties of milk. Normal and contaminating microorganisms and pathogens. Methods of milk handling and delivery to dairy plants. (Prerequisite: NF 275) 2007/2008

NF 375 Food Technology (3C, 2H, 3L)
Production of food in the world with emphasis on Jordanian Food. The different methods of home food preservation; fermentation, sugar addition, concentration, and food additives. Food spoilage, pathogens transmitted via foods, toxins, insects, and parasites. Hygiene of processing plants and equipment. (Prerequisite: NF 275)

NF 376 Fruits and Vegetables Processing (3C, 2H, 3L)
The preparatory steps for processing of fruits and vegetables such as grading, transportation, and storage.

Methods of processing such as drying, freezing, fermentation, concentration, evaporation, and canning. Testing for quality; factors affecting quality of processed fruits and vegetables. (Prerequisite: NF 375).

NF 37 Food Chemistry and Analysis (3C, 2H, 3L)
Chemistry of milk, meat, fruits, vegetables, cereals, legumes, spices, and other food ingredients. Different procedures to analyze food components. (Prerequisite: NF 251 and NF 275).

NF 377 Food Microbiology (3C, 2H, 3L)
Food spoilage. safety and preservation as they pertain to the microbiology of bacteria, yeasts and molds. Conditions favoring the growth. survival and death of these microorganisms, their immediate and long range effects on foods safety. (Prerequisites: BIO 331 and NF 275 equivalent to BIO 431)

NF 378 Cereals Processing and Products (3C, 3H)
Technical principles related to the production and commercial processing of legumes and cereal foods. The use of wheat, milling methods. Production of bread and wheat products. (Prerequisite: NF 275)

NF 381 Diet Therapy I (3C, 2H, 3L)
Diets for normal individuals of different age groups and modification of these diets for the treatment of certain disease conditions. Food-drug interactions. Advanced nutrition principles applied to pathological conditions in humans and principles of participation in delivery of nutrition care. (Prerequisite: NF 284)

NF 382 Diet Therapy II (3C, 2H, 3L)
Nutrition assessment and support. Pathology, management and nutrition therapy for disorders of the gastrointestinal, immune, and respiratory systems, and cancer. (Prerequisite: NF 381)

NF 386 Athletes Nutrition (3C, 3H,)
Biochemical and physiological changes during different types of exercises accompanied with nutritional recommendations according to these changes. (Prerequisite: NF 284).

NF 400 Summer Training (6C, 18L)
This course offers practical training and application on various areas of nutrition and food science in hospitals and food factories. Period of training is eight weeks. No simultaneous courses could be registered with these courses. (Prerequisite: Completion of 90 C.H) 2007/2008 11

NF 475 Meat Technology (3C, 3H)
This course deals with red meats, poultry meat and egg. It emphasizes on the structure, composition, spoilage, quality, processing and preservation of egg. It also covers the composition, processing, microbiology, spoilage, quality, formulation, curing, fermentation, cooking, and preservation of red meats and poultry meat. (Prerequisite: NF 375)

NF 476 Food Quality Control (3C, 2H, 3L)
Structure and properties of basic food constituents. Chemical, biochemical, and microbial changes that influence the physical and nutritional quality of food. (Prerequisite: NF 373)

NF 477 Food Safety (3C, 2H, 3L)
This course deals with the dangers of foodborne contaminations and illnesses caused by bacteria, viruses, parasites and chemicals, sanitation principles and potential problems in food handling systems, essential

precautions needed in food handling by looking at selected case histories of foodborne illnesses involving mishandling of foods from publications. The application of HACCP in food processing establishments will be covered also. *(Prerequisite: NF 377)*

NF 478 Food Packaging (3C, 3H)

This course is designed to introduce students to the physical principles and technology of packaging for the food industry with emphasis on the consequences to food stability and quality. Food packaging materials will be discussed with emphasis on their interaction with food products. *(Prerequisite: NF 375)*

NF 479 Technology of Dairy Products (3C, 2H, 3L)

Milk collection. Study of dairy industry processes including pasteurization, homogenization, separation technology, and packaging. Introduction to dairy product manufacturing including liquid milk, yogurt, labaneh, cheese, and other milk products. Cleaning of dairy plants (CIP). *(Prerequisite: NF 374)*

NF 483 Community Nutrition (3C, 3H)

A study of the scientific approach for continuous supply of food for proper community nutrition. Methodology and techniques for identifying nutritional needs of communities. *(Prerequisite: NF 381)*.

NF 484 Nutritional Education (3C, 3H)

Factors affecting type of food consumption by community and individuals. preparation of programs to educate people for proper eating. Food treatment, handling, and cooking as related to nutritious meals. *(Prerequisite: NF 483, or Corequisite)*

NF 486 Nutritional Case Evaluation (3C, 3H)

Nutritional assessment of a nutritional case. Factors affecting the case; social, economical, health, nutrition, clinical, and biometrical. *(Prerequisite: NF 382)*
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NF 488 Nutrition through Life Cycle (3C, 3H)

Nutrition application for growth, biochemical and behavioral changes at all age levels. Psychological, economic, and cultural implication of food. *(Prerequisite: NF 381)*

NF 491 Seminar (1C, 1H)

Individual term paper presentation and group discussions by students on current subjects and problems within the area of Nutrition or Food Technology. This course cannot be repeated for credit. *(Prerequisite: Completion of 90 CH)*

NF 492 Special Topics (3C, 3H or 2C, 2 H or 1 C, 1H)

This course covers topics related to Nutrition and Food Technology which are not covered in other courses. A student can register this course for one time only. *(Prerequisite: Completion of 90 CH)*