| **Elective courses**  **It is divided into five levels as follows, and the student chooses one subject from each level**  **First level:** | | | | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Course no.** | **Course name** | **No. of credit hours** | | | | **Total** | | **Registration requirements** | | **Written exam time** | | **The great end of the score** |
| **Theoretical** | | **Practical** | |
| E 01 | الاقتصاد البيطرى و تسويق الغذاء  Vet. economics and food marketing | 1 | | - | | 1 | | - | | 2 | | 50 |
| E 02 | القوانين و حمايه المستهلك  Food legislation and consumer protection | 1 | | - | | 1 | | - | | 2 | | 50 |
| E 03 | اداره منشأت غذائيه  Management of food establishments | | 1 | | - | | 1 | | - | | 2 | 50 |

**Second level:**

| **Course no.** | **Course name** | **No. of credit hours** | | **Total** | **Registration requirements** | **Written exam time** | **The great end of the score** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Theoretical** | **Practical** |
| E 04 | التلوث البيئى و أثره على سلامه الغذاء  Environmental pollution and food safety | 1 | - | 1 | - | 2 | 50 |
| E 05 | اداره فنادق  Hotel management | 1 | - | 1 | - | 2 | 50 |
| E 06 | صحه الاغذيه و المطهرات  Food sanitation and sanitizer | 1 | - | 1 | - | 2 | 50 |

**Fourth level:**

| **Course no.** | **Course name** | **No. of credit hours** | | **Total** | **Registration requirements** | **Written exam time** | **The great end of the score** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Theoretical** | **Practical** |
| E 07 | الاضافات الغذائيه  Food additives | 1 | 2 | 2 | - | 2 | 50 |
| E 08 | المتبقيات فى الاغذيه  Food residues | 1 | 2 | 2 | - | 2 | 50 |

**Fifth level:**

| **Course no.** | **Course name** | **No. of credit hours** | | **Total** | **Registration requirements** | **Written exam time** | **The great end of the score** |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Theoretical** | **Practical** |
| E 09 | سلامه الاغذيه المستورده  Safety of imported food commodities | 1 | - | 1 | - | 2 | 50 |
| E 10 | الاغذيه الوظيفية  Functional foods | 1 | - | 1 | - | 2 | 50 |

Elective courses

| **Title**: **Veterinary Economics & Marketing** | **Credit hours** | |
| --- | --- | --- |
| **Code Number:** **E01** | **Lectures** | **Practical** |
| **Prerequisite courses:** | 1 | - |
| **Course Contents:**  - Introduction about veterinary economics and the importance of economics in veterinary medicine  - Pricing  - The business of veterinary practice.  - Management in a veterinary setting.  - Veterinary marketing  - Production function theory  - Costs of production  - Economic and productive efficiency of animal production farms  - The economic justification of diseases control  - Methods used for assessing the economic benefits of diseases control.  - Farm records and accounts.  - Depreciation  - Position of animal farms and their requirements  **Part II**  - **Large and small animal problems**  - Density problem and its economic importance.  - Ununiformity and weight disturbances of breeder flocks and their economic importance.  - Economics of drug treatment.  - Economic benefits to the individual farmer from mastitis control.  - Is bigger better  - Economic importance of tuberculosis and brucellosis among cattle and buffaloes.  - Culling and costs of diseases in dairy herds.  - Surgical affections of equine limbs with special reference to their economic losses.  - Management quality.  - Judgment on the farm income statement.  - **Animal and poultry projects:**  - Feasibility studies of broiler projects.  Feasibility studies of breeding fresian cattle for milk production. | | |

| **Title**: **Food regulation. Consumer protection** | **Credit hours** | |
| --- | --- | --- |
| **Code Number:E02** | **Lectures** | **Practical** |
| **Prerequisite courses:** | 1 | - |
| **Course Contents:**  An Overview. The United Nations Guidelines for consumer protection. Consumer Protection Agencies. International food law. Food legislation (Regulation of food packaging, food additives, food sanitation, regulation of Meat, eggs, fish, Poultry, milk, dairy products).Regulation of imports and exports. Regulation of GMO’s food. Application of risk assessment in food regulation. | | |

| **Title**: **Food establishments management** | **Credit hours** | |
| --- | --- | --- |
| **Code Number: E03** | **Lectures** | **Practical** |
| **Prerequisite courses:** | 1 | - |
| **Course Contents:** The concept of catering services as a business system.  Services of restaurant, Services of restaurant, Services of restaurant.  Nutrition in hospitals  Feeding in ships and floating hotels Control of meal production lines for large groups  Properties and cookware designed to provide feeding groups  Properties and cookware designed to provide feeding groups  Management of food and beverage service  Contracting of raw materials and methods of preparation  Raw materials used in feeding groups  Production systems for lunch for large groups  Control of meal production lines for large groups  - . | | |

| **Title:** **Environmental contaminants and Food safety** | **Credit hours** | |
| --- | --- | --- |
| **Code Number :E04** | **Lectures** | **Practical** |
| **Prerequisite courses:** | 1 | - |
| **Course Contents:**  1.Food safety and hazard in food.  2. Biological hazards (Bacteria and its toxins, Virus, Parasite).  3. Chemical hazards (Mycotoxins, plant toxins and fish toxins).  4. Non biological contaminants (contaminants from food contact materials).  5. Environmental contaminants (Dioxin and heavy metals ).  6. Veterinary residues (antibiotic and hormones)  7. GMPs and Government regulations.  8. Veterinary products: residues and resistant pathogens. | | |

| **Title**: **Hotel Management** | **Credit hours** | |
| --- | --- | --- |
| **Code Number: E05** | **Lectures** | **Practical** |
| **Prerequisite courses:** | 1 | - |
| **Contents:**  Introduction to Hotel Marketing  Hotel Management  Contemporary cuisine  Nutrition and planning menus and drink  Food health and safety in the hotel industry  Hospitality Asset Management  Purchasing Management in Hotels  Cost accounting in hotels  Manage entertainment places  Project Management and Feasibility Study | | |

| **Title**: **Food Sanitiation & Sanitizer** | **Credit hours** | |
| --- | --- | --- |
| **Code Number:** **E06** | **Lectures** | **Practical** |
| **Prerequisite courses:** | 1 | - |
| **Course Contents:**  . Personal Hygiene, Sanitation in the home,  Food Service sanitation, Food plant sanitation  Plant exterior, Plant construction, Equipment, Personal facilities Storage, Cleaning the plant  Water supply, Sewage disposal, Sanitation in retail outlets  The Hazard Analysis and Critical Control Point (HACCP) | | |

| **Title**: **Food Additives** | **Credit hours** | |
| --- | --- | --- |
| **Code Number: E07** | **Lectures** | **Practical** |
| **Prerequisite courses:** | 1 | 1(1) |
| **Course Contents:**  . Food Additives  ○ Antioxidants, Sweeteners, Flavourings, Colours  ○ Antimicrobial preservatives, Enzymes, Nutritive additives (Vitamins & Minerals)  ○ Emulsifiers, Bulking agents, pH control agents  ○ Antifoams and release agents, Flour improvers and raising agents, Gases, Chelating agents | | |
| **Title**: **Food Residues** | **Credit hours** | |
| **Code Number:E08** | **Lectures** | **Practical** |
| **Prerequisite courses:** | 1 | 1(1) |
| **Course Contents:**  **.** Veterinary Drug Residues   * Ant-Helmintics, Antibiotics, Coccidiostats, Growth Promoters and Hormones. * Other Contaminants   ○ Pesticides, Trace elements, Mycotoxins, Tranquillizers, Probiotics, etc. | | |
| **Title**: **Hygiene & safety of imported foods** | **Credit hours** | |
| **Code Number: E09** | **Lectures** | **Practical** |
| **Prerequisite courses:** | 1 | 1(1) |
| **Course Contents:**  Emerging Global Food System Risks and Potential Solutions  A Cooperative Federal–State Approach for Monitoring Imported Foods: Reviewing the New York State Model  The Impact of the Development Model on Food Safety  Legal and Regulatory Issues/Structures in the United States and Abroad  Improving US Regulation of Imported Foods  EU Food Safety Regulation and Trust-enhancing Principles  Experience of Food Safety Authorities in Europe and the Rapid Alert System  The Development of and Challenges Facing Food Safety Law in the People’s Republic of China 151  Defining Food Fraud and the Chemistry of the Crime  Potential Strategies to Improve Import Safety  Tracking and Managing the Next Crisis  Food Product Tracing  Improving the Safety of Imported Foods with Intelligent Systems: The Case of United States–Mexico Fresh Produce Supply Chain  Testing with Confidence in the Pursuit of Global Food Safety  Global Food Protection: A New Organization is Needed  Summary and Recommendations for the Safety of Imported Foods | | |

| **Title**: **Functional foods** | **Credit hours** | |
| --- | --- | --- |
| **Code Number** **: E10** | **Lectures** | **Practical** |
| **Prerequisite courses:** | 1 | 1(1) |
| **Course Contents**  Definition , Benefits, classifications, functional foods of animal origin., functional foods of plant origin, safety considerations, the future of functional foods | | |