School	
Major	Bachelor of Science in Food Science Technology

Major Requirements			
Code	**Title**	**Credits**	**Description**
FDSC475	Food Engineering	3	The course will provide an insight to the calculations involved in food industry such as optimization of food can surface area, mass balance, fluid mechanics, enthalpy etc. In addition, in this course students would learn the minimal mathematical skills needed to do all necessary calculations.
FDSC460	Food Service Management	3	This course introduces the student to the management of different types of foodservice organizations. Students will be studying the managerial (profit, location) and the scientific issues (food safety, hygiene, menu planning) related to foodservice organization. The student will also be introduced to modifications of the normal diet to meet special nutrition needs and menu planning. This course gives a deep insight on different types of foodservice organization and gives a detailed description of the foodservice systems.
FDSC455	Meat, Fish and Poultry Technology	3	This class is designed to give the student an introduction to the muscle food industry from the basic concepts of tissue structures development into a carcass, to the final products found in retail muscle food suppliers.
FDSC445	Food Quality management and HACCP	3	This course offers a wide look into the food safety science including an up-to-date thinking and best practice approaches to the development, implementation and maintenance of world class food safety programs.
FDSC435	Food Toxicants and Additives	3	The course will provide an insight to: • Introduction about toxicity and dose response relationships • Basic principles governing the behavior and effects of toxic chemicals on biological systems, including: toxicity testing; the disposition of chemicals in the body; modifiers of toxic response; fate and effects of chemicals in the environment; • Toxicity risk assessment and government regulation of chemical hazards in the home, the workplace and the general environment. Focus is on human and environmental health impacts of these chemicals.
FDSC425L	Food Processing Lab	1	This course provides the students with practical experience in some common methods of food preservation and processing.
FDSC420	Food Processing	3	This course is designed to cover different categories in food processing. It is an introductory course about dairy, baking, beverages, oil, and meat sectors in the food industry. This course is also to familiarize the students with the food products found in the market, their sources, how they are processed and how does that affect its quality (safety and composition).
FDSC415	Dairy Technology	3	Processing and technologies of milk plant operation from milk receiving to different dairy products such as fluid milk, fermented milk products and rennet-based milk products. Furthermore, the physical, microbiological, and chemical properties of fluid milk and milk components and quality of the end products would be addressed; In addition to that different steps in milk manufacturing such as pasteurization would be addressed followed by the different processing steps for cheeses and other products.
FDSC300	Technology of Food Products	3	Introduction to the different technologies involved in food production from raw materials to the end product. Application of biotechnology to the production of raw materials, as well as to the production, processing, storage, packaging, preparation of food products is briefly discussed. Different chemical, microbiological, and physical changes that occur to food are introduced as well.

FDSC360	Crop production attributes to quality	3	Humans depend on crops for food, fibber, and fuel. Demands for crop production is rising because of increasing population, change in food habits and biofuel consumption. This course focuses on challenges, progress and prospects of crop production. General topic areas will include: Pre-harvesting factors on postharvest life, assessment of maturity, harvesting and handling methods, precooling, storage, packaging, disease control, safety and treatments, in addition to methods to ripen fruits.
FDSC365	Animal production attributes to quality	3	This course discusses the different animal production systems and practices, in aquaculture, poultry, dairy and beef production, and how this affects the quality attributes set by the food industry.
FDSC498	Supervised Training in Food Industries	1	Training is a process of learning and gaining new knowledge through filling the gap between the present capabilities of the students and the requirements of a job. It aims to increase the skills and knowledge that the student could use and benefit from to do a related job. During this course, the students will participate in a supervised training session in different food establishments over a period of time after which trainees will submit a report of his daily activities.

General Education Requirements

Code	Title	Credits	Description
ENGL251	Communication Skills	3	Workplace Occupational Writing is an advanced interdisciplinary writing course emphasizing workplace and technical communication and editing appropriate to diverse professions. It incorporates practice and study of selected types of discourse employed in professional writing situations, preparing students for different systems of writing in their professional lives. Examples from the writing of workplace professionals are analyzed and used as models to demonstrate the transition from academic to professional writing.
ENGL201	Composition and Research Skills	3	This course builds upon the skills acquired in pre-requisite courses mainly ENGL 151 to further develop students' critical thinking and academic writing competencies. Students will read and respond to a variety of texts from different disciplines and produce a research paper using analytical and critical skills in response to texts.
CULT200	Introduction to Arab - Islamic Civilization	3	Ø ªÙÙØ«ÙÙ Ø§ÙØØ¶Ø§Ø±Ø© Ø§ÙØ¹Ø±Ø¨ÙØ© Ø§ÙØ¥Ø³ÙØ§ÙÙØ© ÙØ§ÙØ¯Ø© ÙÙÙ Ø£ÙÙÙ Ø§ÙØØ¶Ø§Ø±Ø§Øª ÙÙ Ø§ÙØªØ§Ø±ÙØ® Ø¨ÙØ§ Ø£ÙØ¬Ø²ØªÙ ÙÙ Ø¥Ø¨Ø¯Ø§Ø¹Ø§Øª Ø¹ÙÙÙØ© ÙØ«ÙØ§ÙÙØ© ÙØØ¶Ø§Ø±ÙØ© ØªØ±ÙØª Ø£Ø«Ø±ÙØ§ Ø§ÙØ¹Ø¸ÙÙ ÙÙ ØªØ§Ø±ÙØ® Ø§ÙØ¨Ø´Ø±ÙØ©. ØªÙØ´ÙÙÙ ÙØ°Ù Ø§ÙÙÙØ§Ø¯Ø© Ø§ÙØ¯Ø±Ø§Ø³ÙØ© ÙÙØ¯ÙØ©Ù Ø£Ø³Ø§Ø³ÙØ© ÙÙÙØªØ¹Ø±Ù ÙÙ Ø¹Ø±Ø¨Ù Ø¹ÙÙ ØªØ§Ø±ÙØ® ØØ¶Ø§Ø±ØªÙØ ÙØ§ ÙÙÙÙØªØ®Ø± Ø¨ÙØ§ ÙØØ³Ø¨Ø Ø¨Ù ÙÙÙØ¬Ø¹Ù ÙÙÙÙØ§ ØØ§ÙØ²ÙØ§ ÙØ³ØªÙÙØ¶ Ø¨Ù ÙØ§Ø¨ÙÙÙØ§ØªÙ ÙÙØ¯Ø±Ø§ØªÙ Ø§ÙØ¹ÙÙÙØ© Ø§ÙÙØ§ÙÙØ© ÙØ¥Ø¹Ø§Ø¯Ø© Ø§ÙØ§Ø³ØªÙÙØ§Ø¶ Ø§ÙØØ¶Ø§Ø±Ù. ÙØªØØ±Ù Ø§ÙÙØ§Ø¶Ù ÙÙÙØ§ Ø¯ÙÙ Ø´Ø¹ÙØ±Ù ÙØ§Ø¹Ù ÙÙÙØ§ØØ¹ÙÙ Ø£ÙÙ ÙØ°Ø§ Ø§ÙÙÙÙØ±ÙØ± Ø§ÙØ¯Ø±Ø§Ø³Ù ÙØØ§ÙÙ Ø£ÙÙ ÙØ³ØªØ«ÙØ± Ø§ÙÙØ¹Ù Ø§ÙØØ¶Ø§Ø±Ù ÙØ§ÙÙØ«ÙØ§ÙÙ Ø¹ÙØ¯ Ø§ÙØ·ÙØ§Ø¨ Ø§ÙØ¹Ø±Ø¨ØØ ÙÙØ³ØªÙÙØ¯ ÙÙÙ ÙØ°Ø§ Ø§ÙÙØ®Ø²ÙÙ ÙÙØµÙØ¹ Ø£ÙÙÙÙØ§ Ø¬Ø¯ÙØ¯ÙØ§ ÙÙÙØ³ØªÙØ¨Ù.

CSCI200	Introduction to Computers	3	The course aims at making students competent in computer-related skills. It is supposed to develop basic computer interface knowledge by providing an overview of managing folders and files, opening a start menu, and hands-on practice on typical software applications such as Word, Excel, and PowerPoint. The student will learn how to use the new features of Microsoft Office 2017, mainly Word documents, Excel spreadsheets, and PowerPoint presentations. Moreover, the course aligns with the Cisco Networking AcademyÂ® Get Connected course, which helps students understand how to connect to the Internet.
ARAB200	Arabic Language and Literature	3	ØªØªØ£Ù□Ù□ Ù□Ø§Ø¯Ø© Ø§Ù□Ù□ØºØ© Ø§Ù□Ø¹Ø±Ø¨Ù□Ø© Ù□Ø¢Ø¯Ø§Ø¨Ù□Ø§ Ù□ØºÙ□Ø± Ø§Ù□Ù□ØªØ®ØµØµÙ□Ù□ Ù□Ù□ Ø«Ù□Ø§Ø«Ø© Ø£Ù□Ø³Ø§Ù□Ø□ Ø£ØØ¯Ù□Ø§ Ù□ØªÙ□Ø§Ù□Ù□ Ø¯Ø±Ù□Ø³Ø§Ù□ Ø£Ø³Ø§Ø³Ù□Ø© Ù□Ù□ Ø§Ù□Ù□ØÙ□ Ù□Ø§Ù□ØµØ±Ù□ Ù□Ø§Ù□Ø¨Ù□Ø§ØºØ©. Ù□Ø§Ù□Ø«Ø§Ù□Ù□ Ù□ØªÙ□Ø§Ù□Ù□ Ù□Ø¨Ø§ØØ« Ù□Ù□ Ø§Ù□Ø£Ø¯Ø¨ Ù□Ø§Ù□ØªÙ□Ù□Ù□. Ø£Ù□Ø§ Ø§Ù□Ù□Ø³Ù□Ø§Ù□Ø« Ù□Ù□Ø¹Ø§Ù□Ø¬ Ø¨Ø¹Ø¶ ØªÙ□Ù□Ù□Ø§Ø§ Ø§Ù□ØªÙ□Ø¹Ø¨Ù□Ø± Ù□Ø§Ù□ØªÙ□Ø§Ù□Ø§µÙ□.

Core Requirements			
Code	**Title**	**Credits**	**Description**
NUTR250	Basic Nutrition	3	This course will introduce the students to the food nutrients, their food sources, digestion and utilization by the body. In addition to the introduction to the characteristics of a nutritious diet in terms of energy, macro and micro nutrients.
MATH245	Statistics for Health Sciences	3	“Introduction to Epidemiology & Biostatistics” is an integrated course that introduces students to the basic principles of Epidemiology and Biostatistics. The course covers the basic principles of research design and the statistical methods and tools used in quantitative data analysis in the domain of health sciences. The first part of the course focuses on epidemiology and covers the design of epidemiological studies, epidemiological measures of the frequency of vital events (health, disease, disability and death), measures of association and impact of the risk factors on health events in human populations and the types of bias in epidemiological studies. It also covers the issues of sampling and the methods of summarizing and presenting health-related data. The second part of the course focuses on biostatistics and covers the methods of data collection and analysis, probability distribution of different outcomes. It also covers the concept of estimation (confidence intervals), hypothesis testing & statistical significance, correlation, performance characteristics of diagnostic tests, and practice in critical reading of medical literature. The course also includes a practical part in the laboratory on the basics of the performing statistical analysis of data using the SPSS statistical program.
FDSC300L	Technology of Food Products Lab	1	This course provides the students with theoretical and analytical experience in common methods of food analysis and processing.

FDSC370	Food Chemistry	3	This course is concerned with biological materials which are subjected to a wide range of environmental conditions which may affect the chemistry of these materials. In this course the chemistry of the major and minor components of foods would be explained with a brief description of vitamins, minerals, Vitamins and flavor. In addition to that the relationship between the chemistry of food components and their functional properties in food systems would be described.
FDSC355	Food Microbiology II	3	Microbiological aspect of food preservation; beneficial utilization of microorganism in food applications; detection of microbial contamination and hazards of important public health. The course will provide an insight to the chemical composition of foods. The course covers the basic chemical and physical properties of water, protein, carbohydrate, lipids, minerals and vitamins and their roles in food processing shelf life and storage.
CHEM255L	Basic Organic Chemistry Lab	1	CHEM255L is a laboratory course to teach the students several common organic chemistry techniques. Emphasis is placed on experimental precision and accurate results as well as safe laboratory procedures. This laboratory course is for students with good aptitude for synthesis in organic chemistry and who want to learn the preparation, isolation, and identification of organic compounds. Students will have also the opportunity to explore interesting areas of organic chemistry and work more independently on the laboratory.
CHEM255	Basic Organic Chemistry	3	This course is an introduction to the basics concepts of organic chemistry. We will cover electronic structure and bonding with an emphasis on the relation between structure and physicochemical properties. It also covers nomenclature, stereochemistry, reactivity of aliphatic hydrocarbons, aromatic compounds, alcohols, aldehydes, ketones, carboxylic acids and derivatives in addition to the practical aspects of organic chemistry in numerous health and daily life related situations.
CHEM200L	General Chemistry Lab	1	This course lab covers the principles of general chemistry with emphasizing on laboratory applications to all concepts covered in the general chemistry course as well as preparing students to the lab work. Moreover, in this course lab, you will be introduced to the world of chemistry in terms of preparing solutions, experimenting and analyzing collected data. You will also have the chance to become familiar with lab material and equipment, learn enough about chemical substances, storing and mixing material as well as their applications in the chemical and pharmaceutical fields.
CHEM200	General Chemistry	3	This course is a first semester course, intended for students who desire to acquire the basic principles in chemistry. The emphasis of the course will be on the fundamental principles of general chemistry, which include terminology, qualitative concepts and quantitative skills. The general topics included in this course are: Quantum Theory of the Atom; Electrons and Periodicity; Bonding; Molecular Geometry; Hybridization; Acid/base Chemistry; Kinetics and reactions mechanism and Solubility and Complex ion equilibria.
BMGT200	Introduction to Business Management	3	The course focuses on how organizations operate in an era of rapid change, and the factors which determine how managers can operate effectively. Topics include the management function; the genesis of modern management; the development of management theory; the context in which managers operate; and managing organizations. The course integrates classical and modern concepts with a rich collection of contemporary real-world examples and cases. The course covers six major themes that guide the progress through the fascinating world of management, namely: Change, Skill development, Global economy, the Internet revolution, Diversity, and Ethics.
BIOL200L	General Biology I Lab	1	General Biology I lab introduces students to basic techniques and safety practices in the laboratory; reinforcing the concepts learned in General Biology I lecture. It provides hands-on experience of some of the concepts discussed in the latter course.

BIOL200	General Biology I	3	This course aims to familiarize the student with the organization and classification of living systems. The covered topics include mainly the cell structure and function, cell division, cell biochemistry, cellular respiration, DNA structure and protein function, as well as animal development and classification. This course has a separate one credit-laboratory component.
BIOC300	Biochemistry I (General)	4	The study of human biochemistry describes how the body works, and provides a basis for understanding what can, and often does, go wrong. This course aims at providing a concise coverage of the general principles of biochemistry. It covers the metabolism of proteins, lipids and carbohydrates, the synthesis of different macromolecules in cells, the reactions they undergo, the substances produced (e.g. hormones) and, their function and fate. The course also touches upon some diseases caused by enzymes deficiencies.
FDSC355L	Food Microbiology II Lab	1	Food Microbiology II laboratory is a two hour a week laboratory course with experiments in environmental influences and control of microbial growth, food preservation, total plate count, and testing for surface contamination. It also includes experiments to evaluate the microbiota of various foods and water and enumerate indicator microorganisms.
BIOL385	Microbiology	3	This course covers principles of microbiology with emphasizing on the diversity and structural characteristics of microorganisms, impact of microbes on everyday life and the role of microbes in the host-pathogen interactions. Moreover, in this course, you will be introduced to the world of microbiology in terms of isolation, identification and classification. Also, you will have the chance to discover examples of different groups and species of microorganisms that have direct impact on human health, mechanism of causing diseases and the beneficial effects on the biotechnology sector as applications in the food industry.
BIOL385L	Microbiology Lab	1	Microbiology laboratory is a two hours a week laboratory course with experiments in microbial culture, staining techniques, disinfection, and sterilization. Isolation of bacteria from mixed cultures. Use various metabolic reactions in the identification and classification of organisms.